



Forest Resources and Technologies (FOREST) Project

Cooperative Agreement Number 118-A-00-00-00119-00

Year Three Annual Report

July 1, 2002 – June 30, 2003

Submitted to

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Submitted by

**Winrock International
Chemonics International Inc.
The Heron Group, LLC**

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I. Introduction

Description of Cooperative Agreement

Winrock International, in partnership with Chemonics and the Heron Group, was awarded the Forest Resources and Technology (FOREST) Project on July 21, 2000. This five-year project is based in Khabarovsk, Russia and will be implemented July 2000 - July 2005 in the Russia Far East and Siberia. The major goals are to reduce the threat of global climate change and preserve biodiversity by promoting sustainable forest management and preserving Russian forests as a globally important carbon sink and critical habitat for rare and endangered species.

The FOREST Project is achieving these goals by focusing on four technical components: forest fire prevention, pest management, non-timber forest products and secondary wood processing, and renewable energy alternatives. In addition to the four primary components, four cross-cutting components (forest policy and legal reform; applied forestry research; a grant/loan program and volunteers) will support the technical components. However it should be noted that due to a restructuring of the project during the past 18 months, the cross-cutting components, to the extent they continue, are now reported under the four primary components.¹ As a concluding report for the Grants Component, we have maintained a separate section merely for this Annual Report.

It is also noteworthy that within the FOREST Project, there is an Advisory Committee (Council) composed of senior officials from the Russian government from the Ministry of Natural Resources and the Centers for Forest Protection. This committee acts as a guide in unison with USAID in providing direct feedback on the program, and in the project's goal to meet the needs of the Russian Federation on Forestry issues.

This Year Three Annual Report covers FOREST Project activities and results from July 1, 2002 – June 30, 2003.

II. Executive Summary

During the 2002-2003 project fiscal year, the FOREST Project has completed significant goals; below each technical component is briefly highlighted:

Fire Prevention: The Ministry of Education has contacted the FOREST Project regarding institutionalizing the fire prevention program into school curriculums. On a regional level, several schools have already begun to apply materials and programs developed under the project directly in the training of school children, teachers, and in some cases, junior rangers and foresters. The value associated with this component is in a developing legacy of training individuals which being applied and will have a lasting effect to forestry management against fires within the Russian Federation.

Pest Monitoring: The FOREST team in conjunction with the Centers for Forest Protection have identified potential outbreak zones in Siberia and the Far East and are now engaged in monitoring of those zones, and developing a database for tracking pests, to apply new techniques of monitoring which

¹ As a concluding report for the Grants, we have maintained a separate section for this Annual Report. The other components no longer exist or have been restructured internally into the Primary Components.

will be adapted into the local governmental Russian centers for greater accuracy in pest management and an overall reduction in lost value of forest. Already the project has identified a need to perform monitoring on Sakhalin Island, which had not been done prior to our identifying of Siberian Moth on the island. One million hectares are now monitored on Sakhalin as a result of our work. This has raised discussion in terms of the potential need for a new Center for Forest Protection to be possibly instituted on Sakhalin Island.

Secondary Wood Processing and Non-timber Forest Products: The project has led trade missions to Asia and Central Europe during the past year for both NTFP and SWP small and medium sized enterprises. This has led to the creation of value equal to \$3 million USD in new contracts for these forest-based enterprises. This is significant from the perspective that one NTFP contract for \$250,000 resulted in the creation of 450 new harvesting jobs for a local NTFP producer. In addition, we have been able to work directly with indigenous tribes-people as forestry is a traditional base area where they continue to work today. Once again these results are significant since the poverty level exceeds 31.3% due to high unemployment out in these villages near densely forested areas.

Biomass Energy: Firms Gorinsky LPK and Amurskiy DOK worked with FOREST project experts in acquiring, installing, and operating biomass energy facilities reliably and cost-efficiently. As a result of FOREST assistance, Gorinsky installed a steam wood-waste boiler (1 MW thermal energy) and three dry kilns (300 m³ total capacity). Also, Amurskiy has purchased a hot water biomass boiler 2.5 MW from Kovrov Boiler and Dry Kiln Plant, Russia, for a heating system. And, Igirma-Tairiku (Irkutsk Oblast), a long-standing FOREST partner company, purchased two biomass DKVR 10-13 Biysk boilers to supply energy for 10-12 new dry kilns and to heat a new sawmill. Working alongside engineers from the Biysk Boiler plant, FOREST biomass energy experts improved the technology and modified the design of these boilers, rendering them capable of efficiently burning bark and sawdust. Two of the four boilers are expected to be installed and in operation by November/December 2003. The project is well underway as Igirma-Tairiku has already completed construction of its boiler house, fuel preparation, handling system and has begun erecting two boilers. As a result of this technical assistance, FOREST is implementing pilots which will be used as models in the implementation of future biomass facilities across Russia.

The FOREST Project continues to be unique. As environment crosses into business, health, civic society and economics, the project has demonstrated results in all of these areas. The FOREST Project has generated results which are tangible and will be long-lasting. In addition, pilots have been completed which will serve as models for future implementation in Russia and we are looking forward to making impact that will have a legacy. The FOREST Project has now begun to move into a final stage (over the last two remaining years) which will focus on institutionalizing the various components and their activities into Russian entities. The purpose of this shift is to ensure that FOREST activities and work will continue in the Russian Federation long after the FOREST Project has ended. This will ensure a lasting legacy to USAID's forestry program for Russia.

III. Administrative Highlights

- Kent Hill, USAID Assistant Administrator for the Europe and Eurasia, visited FOREST Project partner sites in Khabarovsk September 23rd and 24th, 2002. Dr. Hill was accompanied by Carol Peasley, Mission Director of USAID/Russia and several other USAID representatives. The delegation was briefed on all aspects of FOREST's work, and attended site visits to NTFP/SWP Association business partners, forest fire prevention partners, and grant recipients.
- Despite funding reallocations within USAID portfolios around the world, during May, 2003 the FOREST Project had been confirmed that it will continue to work through the remainder of its

cooperative agreement, however at a reduced amount; as noted earlier in this report the FOREST Project will come to a conclusion in July, 2005.

- Patrick J. Perner replaced Craig Vandeveld as Chief of Party/Project Manager for the project in January, 2003.
- During the previous year, and this year, the cross-cutting components have been restructured into the four primary components if they remain within the cooperative agreement. The Grants Component held its final grant rounds during 2003, and will now intends to close-out existing grants over the next 12 months; therefore, it should be noted that there will not be any further grants issued under the FOREST Project. Furthermore, in June, 2003 the FOREST Project began a process of re-engineering to meet new funding levels of the project, inclusive of downsizing personnel, restructuring within the components and regional offices (Sakhalin and Krasnayarsk).
- Moving forward, the goal of the project is now to seek “Institutionalization” and a tangible legacy for each remaining component of the FOREST Project. Future work-plans and reporting will be now developed with this primary objective. This is also a result of our re-engineering process which we undertook in June, 2003.
- For Year Three the level of effort break for the FOREST Project was divided at Russian 87% and Expatriate 13%.

IV. Four Technical Components

A. Component 1 – Fire Prevention

1. Economic Overview

The forest fire prevention team of the FOREST Project supports the USAID economic growth strategic objective - “environmental resources managed more efficiently to support economic growth”. Russia's forests account for nearly a quarter of the world's forest and timber volume, provide the bulk of the foreign exchange earnings for the Russian Far East, and are critical to the effects of global climate change and biodiversity of the region. Forest fires are the most serious threat facing the Russian forests.

Research shows that 50 to 100 cubic meters of timber are damaged per each hectare of burned forest, resulting in a loss of 2,000 to 3,000 rubles per hectare. Official estimates indicate that 70% to 90% of the fires in the Russian Far East and Siberia are caused by humans.

The forest fire prevention team continuously identifies and partners with new groups to deliver trainings, organize community events, and disseminate forest fire prevention materials. This year, thanks to our trainings to strengthen foresters’ communications skills, foresters in the Far East have learned how to surmount the challenge of a lack of resources by creating a professional network and turning interested individuals and groups into active partners in forest fire prevention. Also this year, the fire prevention component showed how important forest fire prevention messages could be transmitted to hundreds of thousands of people at no cost to the project. The project works with local radio and television stations in the five project regions to broadcast forest fire prevention public service announcements (PSAs) without paying charges for air time. With such a large amount of the population learning how to properly behave in the forest, the threat of human caused forest fires is significantly diminished and thousands of hectares of an important economic resource are saved.

2. Highlights and Results

In Year Three, the fire prevention team's General Awareness Program made significant progress in Khabarovsk, Sakhalin, and Krasnoyarsk, involving more influential groups in forest fire prevention activities. The program also got its start in Primorski and Irkutsk, instantly engaging the public with journalist contests, mass media campaigns, and other activities.

Selected highlights from Year Three of the General Awareness campaign follow:

- The NGO Alliance conducted a 6 week forest fire prevention campaign in Komsomolski Rayon in Khabarovsk, and the NGO Pilgrim conducted a 7 week campaign in Sakhalin.
- The cities of Komsomolsk and Amursk held Forest Fire Prevention months with support from the FOREST project. The Ministry of Natural Resources, junior forest rangers, leskhoz foresters, and schools worked together to better inform the citizens on ways to prevent forest fires.
- The MNR in Krasnoyarsk initiated the direct mailing system with daily fire danger information to mass media groups and the fire prevention component staff began the direct mailing system in Sakhalin.
- Four forest fire prevention billboards were produced and erected in Krasnoyarsk.
- The Khabarovsk Office of the Russian National Environment Protection Society conducted a FOREST-funded fire prevention public awareness campaign, organizing 42 public events; creating two videos aired 27 times by two TV stations reaching an estimated 1,670,000 people; producing 8 newspaper articles; and creating several information stands. FOREST project materials were distributed in Khabarovsk City and Lazo Rayon. This campaign was noted by the Khabarovsk Krai Ministry of Natural Resources as an interactive, progressive campaign that was unique and successful due to the cooperation and collaboration it enlisted from many different administrations. The Ministry has expressed the hope that a similar campaign will be repeated in the future.
- The administration of the city of Alonka in Khabarovsk Krai officially requested FOREST project materials for use in their schools, and help from the project in creating public awareness information stands and planning general awareness activities. FOREST was extremely gratified to receive and fulfill these requests from this remote area which has a high incidence of forest fires.
- Radio station 105.5 FM, the third most popular station in southern Sakhalin, aired three different FOREST Project messages related to activities with the MNR, Boomerang (local NGO), and the Tymoskoe Junior Forest Rangers. The messages reached an estimated 30% of southern Sakhalin. The public TV channel of Vladivostok with an audience of nearly 700,000 has begun broadcasting PSAs with messages on forest fire prevention. The Irkutsk radio station reaching the entire population of Irkutsk and surrounding areas (approximately 700,000 – 800,000 people) is now broadcasting five different audio PSAs with messages on forest fire prevention. The messages aired right at the start of the Environment Danger Protection Days. Finally, AIST-TV, the most watched TV station in Irkutsk, is now airing two video PSAs on forest fire prevention.
- The importance of forest fire prevention was presented at the 7th Annual Far East Medical Specialist Exhibition. Over 600 people who attended walked away with FOREST Project fire prevention information materials (fact sheets, tip sheets and other items) and at least 100 interpersonal communications took place discussing the health problems related to forest fires and how the average person can help reduce the occurrence of forest fires.
- The forest fire prevention component was invited by the Administration of Komsomolsk-on-Amure to participate in a community discussion of the coming fire season with individuals and groups active in forest fire prevention.
- The importance of forest fire prevention was the topic of the annual meeting held by the Khabarovsk Office of the Russian National Environment Protection Society to plan for children's

summer camps. Thirty children's camps will run in Khabarovsk krai through the summer and each will display FOREST Project fact sheets, tip sheets, and posters.

- Working with the Municipal Tram and Trolley parks in Khabarovsk, the Khabarovsk division of the MNR – with support of the FOREST project – organized three tram and trolley events in Khabarovsk. Passengers enjoyed interacting with volunteer performers from the Eco-terra Theater and learning about fire safe behavior in the forest. The public interest was reflected in two TV-reports and four newspaper articles, which were published about the events.

The fire prevention component's participatory approach to strengthening foresters' communication skills is unique in Russia and has brought to bear significant improvements in foresters' confidence and ability to interact with the media and the public. After completing three rounds of training in Khabarovsk, here is what the foresters and local trainers had to say about the program:

- During the course of the training sessions, trainers have observed a noticeable shift in the general mindset of the participants, from initially focusing to a great extent on lack of resources, training, and staff to – over the course of the sessions – beginning to enthusiastically share and explain particular training-inspired activities that they were able to accomplish during this fire season. All foresters present were able to share concrete examples of how they had partnered with local NGOs, schools, small businesses, and/or administrations. The three rounds of training appear to have succeeded in affecting the way these foresters now view themselves, their profession, and how they interact with the public. As one participant described, "A year ago when I started to receive this training, I was very apprehensive about it – now, after eight months of using it, I have found a new value to staying in the forester's career."

Since the inception of the forest fire prevention school-age program, child educators and children alike have caught on to the importance of preventing forest fires. In Year Three, FOREST project staff continued to train educators and extra-curricular professionals in Khabarovsk, Krasnoyarsk, and Sakhalin, and also initiated the first trainings in Primorski and Irkutsk.

- FOREST Project's three "Fire Prevention School Program" trainings held in August were well received and attended by more than 105 junior forest rangers leaders and school teachers from throughout the Krasnoyarski Krai.
- Forest fire prevention was the main topic of discussion at the Khabarovsk Krai Ecological/Biological Center Open House, attended by approximately 100 adults and children. The FOREST Project's fire prevention program for school-aged children was highlighted as the curriculum of choice for educating their 800+ enrolled students. Plans were made for students to develop artwork depicting fire prevention behavior to be hung in public buildings and in each of the cities where the Center has offices at the start of the fire season in 2003.
- The school age program has been incredibly successful in reaching both children and the professionals who work with them, by incorporating fire prevention lessons into schools' curriculums. The design of the fire prevention school-age program teacher's manual for kindergartners has been finalized thanks to the input and recommendations of many project partners and consultants. The manual has been published and distributed for testing at select schools.
- 92 educators in Irkutsk will integrate the forest fire prevention school age-program into their lessons and activities. 300 copies of the school-age program were distributed throughout Irkutsk in 2002 and based upon positive feedback of the program; the oblast and city education departments organized two additional trainings and provided facilities free of charge.
- The Primorskii Institute for Raising Skills for Teachers organized their own forest fire prevention school age program training session for 30 teachers from all districts of Primorskii krai.

This year, the aim of the targeted campaigns was to involve local groups in the design, planning and implementation of campaigns directed at groups who are a high risk for starting forest fires. Several NGOs received support from the project to carry out targeted campaigns in their region.

- The NGO Krechet conducted a targeted campaign aimed at hunters. As a result of the campaign, hunting licenses now include tip sheets with fire safety instructions.
- It is well known that a significant number of forest fires result from coals, sparks, and cigarettes falling from moving trains onto dry grass or trees. In an effort to make the public aware of these problems, six forestry students went to Khabarovsk to practice community outreach related to forest fire prevention activities with the local railroad station. It is hoped that, as railroad passengers and employees learn to be aware of the potential for starting fires, they will be more careful and observant when the trains pass through the countryside and thereby help reduce the number of human-caused forest fires.
- The NGO Nash Krai conducted a forest fire prevention public awareness campaign targeting picnickers that reached an estimated 150,000 citizens of Krasnoyarsk Krai. The campaign included community outreach activities at popular family picnicking places within the city and on the outskirts, as well as at the city zoo, libraries, and railroad station. The two local newspapers (*Nash Krai* and *Krasnoyarski Rabochii*) and the Afontovo television station covered these events.

During Year Three, the newly formed Interregional Working Group of the fire prevention component met twice to discuss the sustainability of the FOREST project. Below are the highlights of the group's discussions:

- Members of the newly reorganized FOREST Fire Prevention Inter-regional Working Group, now including representatives from the Ministry of Natural Resources and members of the fire prevention component contact group, acknowledged the important work the project has done engaging communities and mass media groups in disseminating knowledge on forest fire prevention. The members of the Working Group strongly urged the component staff to create resource centers in each of the five krajs to continue with this work once the FOREST project ends. The Group determined the previous definition of a resource center as a distribution house for FOREST project materials as too limited and they improved upon the vision by including plans for a small staff in each of the resource centers that will work with local community and mass media groups as well as MNR staff in the area, to get the message out on forest fire prevention. The current resource center RFA was discussed and many changes were made to reflect the new definition of a resource center.
- The second Interregional Working Group meeting was held in Khabarovsk on April 16. Year three results of the work done by the fire prevention component were evaluated by the Group and activities for the Year Four Work Plan were identified and prioritized. In order to prepare for the new directions of the fire prevention component for Years Four and Five, the issue of sustainability was the focal point of the discussions and recommendations to achieve sustainability were developed by the Group.

3. Success Stories

The first Forest Fire Prevention School Age program training in Primorye took place in Vladivostok on March 19th, 2003, led by Elena Yakovleva, who in October, 2002 had participated in a training-of-trainers seminar of the Forest Fire Prevention School Age program and was given a draft version of the Program for review, adaptation and implementation. Elena shared her experience with the seminar and ideas on the Program with colleagues from other schools, and worked closely with the Primorski Institute for Rising Skills for Teachers (PIPKRO). The Institute decided to conduct a pilot project using an abbreviated curriculum of the School Age program training and has offered Elena an opportunity to conduct further trainings at the Institute. This was the first School Age program training to take place in Primorye, and is evidence that the forest fire prevention component of the FOREST project has made significant progress

toward encouraging Russian stakeholders to take the lead on initiating and continuing FOREST project activities.

Similarly, in Sakhlinskaya Oblast, a Forest Fire Prevention School Age program training was initiated, organized and conducted by the Institute for Rising Skills for Teachers (PIPKRO) without financial support or technical assistance from the FOREST project. Thirty-four educators were trained in a seminar where the fire prevention component provided materials only. FOREST's School Age Program is now becoming a self sustaining program and is recognized within the institutions of child education professionals for the value it brings to educating Russia's children.

Natalia Gorskikh, Head of the Department of Skill Improvement for Forester Managers for the Divnogorsk Forestry Technical School in Krasnoyarski Krai, took what she learned at a recent round of regional foresters' training sessions to her own classroom where she passed her new fire prevention knowledge on to an additional 30 foresters attending a three-week session on forest management. She will continue in this endeavor as professional foresters return to the Divnogorsk Forestry Technical School for skill improvement. Ms. Gorskikh is one of over 70 Krasnoyarski Krai forest professionals who have received fire prevention training through the FOREST Project. She now uses these new skills and training to teach practicum students who are training for a career in Forestry Management.

4. Project Focus Areas – Activity Information

The forest fire prevention component is currently working on finalizing the Year Four Work Plan, including the design of a strategy to nationalize the forest fire prevention campaign. The component team is also actively recruiting for additional staff to lead this effort, as well as continue the work of the component in the Far East. Upcoming activities will be defined once the final version of the work plan is approved.

5. Results by Objective (Indicators)

SO 1.6 Environmental Resources Managed More Efficiently to Support Economic Growth		
<i>IR5</i>	<i>Year Three Total</i>	<i>Comments</i>
(3) Number of groups participating in forest fire education/communication program	598	15 NGOs, 32 community groups, 56 mass media, 372 schools/extra curricular organizations, and 123 leskhozoes with foresters participating

6. Key Deliverables Accomplished per Approved Work plan

Task	Target	Actual
General Awareness Program	Fire prevention communications campaigns operational in the five krais/oblasts	General Awareness activities initiated in Primorski and Irkutsk and ongoing in Khabarovsk, Krasnoyarsk and Sakhalin
Strengthening Foresters' Communications Skills/Community Participation	Training for 50 foresters in Khabarovsk, 100 in Krasnoyarsk, 50 in Sakhalin; communication manual and extension aids produced and plans made for Primorski and Irkutsk trainings	26 foresters trained in Khabarovsk, 82 in Krasnoyarsk, and 47 in Sakhalin. Communications manual and extension aids produced. However, plans were not made for trainings in Primorski and Irkutsk due to change

		in project goals for Years Four and Five
Strengthening Organizations Involving School Aged Children	500 educators involved in Khabarovsk, Krasnoyarsk and Sakhalin, trainings initiated in Primorski and Irkutsk with 50 educators trained	386 educators involved in Khabarovsk, Krasnoyarsk, and Sakhalin. 112 educators trained in Primorski and Irkutsk
Targeted Campaigns	3 targeted campaigns identified and contracted to local groups	4 targeted group campaigns were carried out by local groups in Sakhalin, Krasnoyarsk, and Khabarovsk
Monitoring and Evaluation	2 new KAP studies conducted in Primorski and Irkutsk, forest fire monitoring report, reports with recommendations on the school-aged program and foresters' training program	KAP studies were not conducted due to budget constraints, as noted in earlier reports. A forest fire monitoring report was produced and report on foresters' training programs were completed
Institutionalization of Public Awareness Program for Sustainability	3 resource centers identified and programs initiated, 2 meetings with the Interregional Working Group, and a report evaluating the sustainability of the program and new working group	2 applications were received for resource centers and 1 was awarded. Working Group met twice. A report on sustainability and an RFA for the resource centers was produced and revised.
Production and Distribution of Fact Sheets and Tip Sheets	15 fact sheets and tip sheets produced	15 fact sheets and tip sheets were produced
Support the Development of Rest Areas	One progress report	5 resource centers were developed. A progress report has not been completed
Increasing Participation and Information Exchange by Contact Group	1,200 members in contact group, one database, and 4 newsletters	Over 1,500 members in the contact group, integrated database completed and 4 newsletters produced
Work plan/Program Development	Year 4 Work plan completed	Component One's contribution to the Year 4 work plan submitted

7. Notifications – Issues, Problems, Findings on Work to Date

Dmitry Piven, Fire Prevention Component leader and communications manager left the project to pursue other employment after 3 years of incredible dedication and outstanding performance. The Component team is currently recruiting for his replacement.

8. Other Information

During the first three years of the FOREST Project, the forest fire prevention component developed and implemented a scientific and systematic approach to changing behaviors in the Russian Far East and Siberia in an effort to reduce the number of human-caused forest fires. Years Four and Five present a new challenge for this component: build on the success of the first phase and systematically institutionalize the initiative at the federal and regional levels of Russian government. The outcome of this institutionalization will be sustained replication of the program throughout Russia, resulting over the long-term in a reduction of forest fires caused by humans.

9. Level of Effort

Approximately 88 months were spent on the Fire Prevention Component in Year Three, see Appendix B for a detailed breakdown of the fourth quarter.

B. Component 2 - Pest Management

1. Economic Overview

In Year Three the Pest Monitoring Component undertook an economic analysis of timber losses from Siberian moth damage during the 1990s outbreak in Krasnoyarski Krai. The area of forest destroyed from insects and diseases in the Russian Federation varies considerably (from 15,000 to 200,000 hectares) with an average volume loss of 25.3 thousand hectares per year. Based on the minimal price of a cubic meter of non-specific wood sold, these losses would vary from 71.5 to 957.8 million Rubles with 121 million Rubles per year as an average. Recalculation of the average unit price by the forest harvesting industry indicates that these losses will increase by 10 times at a minimum (Rusova, 2003). During the 1990s Siberian moth outbreak in Krasnoyarski Krai, Sokolova (1999) estimated that 6,179 million Rubles of forest were lost including stumpage costs, the costs of growth loss in surviving trees, as well as the cost of reforestation. The 1990's pest outbreak in Krasnoyarski Krai has shown the following:

- an estimated loss of \$257 M in timber, and
- need for a \$5M loan from the World Bank to treat the outbreak

If the monitoring system developed by FOREST had been in use at the time, we would have seen the following savings achieved:

- A factor decrease of 21 in merchantable timber would have saved \$245M
- A factor decrease of 3 for treating the outbreak would have saved \$3.4 M

The monitoring system could have saved Russia a total of \$248.4 M.

2. Highlights and Results

In Year Three the Pest Monitoring Component completed its second full season of data collection in all eight project regions in Siberia and the Russian Far East. The Pest Monitoring Teams highlights several activities below that seem to indicate that the Ministry of Natural Resources of the Russian Federation is taking steps to adopt the FOREST pest monitoring technology.

- The Ministry of Natural Resources will intensify forest protection in Sakhalin next year. This decision was the direct result of a week of fieldwork in Sakhalin forests by a team of forest protection experts from Moscow and Krasnoyarsk supported by the FOREST Project. The team worked closely with Mr. Sergey Kotelnikov, the Leader of the State Forest Service of the Sakhalin Committee for Natural Resources. He pointed out problems of forest dieback from diseases and insect pests and the desperate need of a special forest protection unit for Sakhalin. Team member Dr. Lubov' Matusevich, the Chief of Division for Forest Protection of the Ministry, stressed that Sakhalinskaya Oblast can be a very promising region for the implementation of the new forest pest monitoring system developed by the FOREST Project.
- Forest Protection Center to incorporate FOREST's pest monitoring database. The Russian Forest Protection Center in Moscow will add FOREST Project's pest monitoring database into their existing State database in Pushkino. The FOREST Project data are much more detailed and accurate than existing information and will serve as an example of data organization for other regions. This decision also represents a significant step on the part of the Ministry to adopt this new monitoring technology as part of its forest protection work. The new pheromone trapping

system, implemented in seven federal regions of Russia with the support of the FOREST Project, is more effective and less costly when covering large areas, and especially in areas where neither pheromone trapping nor sampling of larvae is currently in use. Dr. Raphael Vartanov concluded this in his report, "Some Economic Aspects of Monitoring Siberian Moth in Krasnoyarski Krai and Irkutskaya Oblast of the Russian Federation", which the Pest Monitoring Team submitted to the FOREST office in Khabarovsk. The report included an economic analysis comparing the pheromone trapping technology used by FOREST and existing technology.

- Forest Protection Centers receive highly accurate Siberian Moth data. The local Centers of Forest Protection received much more accurate data on Siberian moth distribution and infestation of their forests than ever before. With support and technical assistance provided by the FOREST Project, the Centers for Forest Protection established 100 permanent plots for Siberian moth sampling in Primorski Krai, and 50 in Khabarovski Krai, Irkutskaya Oblast and Tomsk Oblast each. 1500 pheromone traps were set in all the above-mentioned regions. This represents the beginning of a functioning monitoring network in the main forest regions of Siberia and the Russian Far East. And, it may well be one of the largest areas being continuously monitored by pheromone traps anywhere in the world.
- Republic of Buryatiya joins FOREST monitoring network. The Center of Forest Protection of Buryatiya will, without major expense to the project, establish and maintain a network of fifty pheromone traps in the mountainous forests of the Republic. The Center also will work with FOREST Project Consultants to create a map of the areas of outbreaks by the major forest pests in the Republic. The Center plans to publish this map on their own and to distribute it in the leskhozoes of Transbaikalia. This addition to the pest monitoring system comes as a result of a desire on the part of the Center to be involved and learn more about how to use the new technology – a legacy for the Project.
- New FOREST map aids forest protection specialists. Hard copy and electronic maps have already been created and distributed for areas of outbreaks by the main forest insect pests in the Yenisey Region of Siberia. The Project has provided these maps to the Center of Forest Protection and to the Department of Forest Protection of the Committee of Natural Resources in Krasnoyarskiy Krai. The Project published the map, "Regions of outbreaks of forest defoliators in Yenisey Siberia" and distributed it to forest protection specialists and field foresters. The map provides information on the distribution of 23 different forest insect pest species that are distributed in different forest types that occur in the vast territory along the Yenisey River that runs from the Mongolian border to the Arctic Ocean. In addition, detailed information on the territory occupied by each species and level of damage caused is provided for each leskhoz in Krasnoyarski Krai and for the Republics Khakassiya and Tuva.
- Ministry scientist highlights value of new pest monitoring maps. Dr. Yuri Gninenko, one of the leading experts in forest protection in Russia, published an article in The all-Russia Journal of Forest Management, "Lesnoye Khozyaistvo" in which he praised the map, "Regions of Outbreaks of Siberian moth in Yenisey Siberia". Dr. Gninenko said the map produced by the FOREST Project was the first really successful attempt in Russia to create specialized forest protection maps. The Project is in the process of preparing similar maps for Irkutsk Oblast and Primorskiy Krai.
- Siberian moth situation is quiet in Primorskiy Krai. Based on data from the first year of trapping in Primorskiy Krai, the FOREST Project has determined the exact distribution of the Siberian moth in the kra. Trap captures of male moths also indicate that, although there is a major

outbreak of Siberian moth to the north in Khabarovskiy Krai, the moth is not present in great numbers in Primorskiy Krai and therefore does not pose a major threat in regard to accidental introduction into North America at this time

- New technique developed to more precisely estimate total area being monitored in Siberia and the Far East. Using GIS technology, FOREST developed a technique to more accurately account for the total number of hectares being monitored by pheromone traps for the Siberian moth. This technique involves developing a GIS map layer that shows all traps in all regions. Experts then calculate the area each trap is monitoring in a buffer zone of 2 km. Results showed that a number of traps had been placed too close to each other and had overlapping areas thereby reducing the effectiveness of the traps. Even so, the technique showed that the total area being monitored in the high quality habitat areas of Siberia and the Russian Far East were slightly greater than 200,000 hectares. The new technique also showed that the traps, because they are located in high quality habitat areas where Siberian moth outbreaks are most likely to occur, are actually monitoring a total area of approximately 175 M hectares. In the next field season, the Project will eliminate all trap overlap that should result in slight increase in total hectares monitored.
- Monitoring network detects Siberian moth population increase. Based on the FOREST Project's work completed during the last quarter of 2002, analysis of trap captures in the Republic of Khakassiya show a considerable increase in population density over the previous year. This may provide an opportunity for the new system to follow and perhaps predict an incipient outbreak in the coming year.
- Small, woman-owned company in Krasnoyarsk manufactures pheromone traps for Russia's needs. A private, woman-owned company "Print" located in Krasnoyarsk is now commercially producing the milk carton style pheromone traps for insect pest monitoring. Collaboration between the FOREST Project and "Print" has helped the company to improve the quality and durability of the traps while simultaneously lowering production costs by 15%. The Russian Federation has not used milk carton traps in Russia and word of this new domestic source is attracting attention from agricultural specialists who have now contacted "Print" to learn more about the possibility of purchasing these traps. In this endeavor, the FOREST Project has ensured there is now a ready supply of low cost pheromone traps for use in Russia.
- The Pest Monitoring Team trained 50 forest protection specialists during a Component 2 seminar in Vladivostok on April 23rd. These people represented almost all of the Centers of Forest Protection in Siberia and the Russian Far East. Also in attendance were representatives from the Institute of Forest, Ministry of Natural Resources in Moscow and the Russian Center of Forest Protection in Pushkino. Each Center director discussed conditions in their region in terms of Siberian moth and other key pests as well as results of trapping using the pheromone technology. At the moment the state procedure to monitor and collect information on insects and diseases in the Russian Federation appears to miss an important part of the monitoring process—a centralized mode of field data collection itself. The monitoring methods provided by the FOREST Project will help alleviate this problem.
- Plans for 4th year discussed and approved by Component 2 Working Group. On April 24th Component 2 held a Working Group meeting with Chairperson Dr. Lubov Matusevich presiding. Bruce Miller presented an overview of the model being developed by The Heron Group to predict potential outbreaks based on moth captures and sampling of larvae. The Heron Group expects the model to be operational by early fall and plans to meet with Dr. Kobelkov and others in Pushkino in October for the purpose of transferring it to the Ministry of Natural Resources. Dr. Galina

Urchenko described the work going on in two leskhozoes in the Primorskiy Krai as a result of a grant award made the previous year. Dr. Yuri Baranchikov presented the workplan for Year 4, and Working Group members approved the basic plan.

- Forest protection maps delivered to 59 leskhozoes in Krasnoyarsk Krai and 21 leskhozoes in Republics of Khakassiya and Tyva. During the training seminar for the forest protection staff of the local Forest Service on May 19th, 15 representatives participated in the seminar. The maps depict the outbreak risk for 22 of the most important forest pest species of Central Siberia. The maps are freely accessible both from the Pest Monitoring Component and from the Project Internet site to any customer from the Forest Service, Region Administration or local Department of the Ministry of Emergency Situations.
- Moving Pest Management into sustainability mode. The FOREST project is continuing to provide assistance in strengthening the Krasnoyarsk Center for Forest Protection's ability to work with maps and forest protection information using GIS techniques. For this purpose the Project upgraded the Center's version of ArcView software, purchased for the Center a year ago. The Sukachev Institute of Forest, another partner of the Project, with FOREST Project assistance consolidated efforts in forest protection in the Krai by providing the Center with a complimentary copy of a digital map of the forests of Yenisey Siberia.
- Technology Transfer in Russia conducted through presentation of three papers on FOREST's work at International Conference. Moscow State Forest University hosted the meeting, "Monitoring of Forest and Urbo-Ecosystems", on November 19-20, 2002. Participants and representatives of the Ministry of Natural Resources including Roslesozaschita discussed the plenary paper by the Pest Monitoring Team, FOREST Project team and partners. Arising out of these discussions is a proposal made to expand this methodology to other regions of Asiatic Russia.

3. Success Stories

As a result of the FOREST Project, a previously unmonitored 1 million hectares of forest in Sakhalin Oblast will be explored by a special forest pathology expedition from the Russian Center for Forest Protection. The Ministry of Natural Resources of the Russian Federation made this decision, based on results of a recent inspection supported by FOREST's Pest Monitoring unit. Sakhalin Oblast is one of the 6 regions of the Project, although the region does not have special forest protection service ensuring that the valuable economic resource is safeguarded. FOREST Project made a professional evaluation of the forest health situation on the island and recommended that the Ministry pay special attention to a potential emergency situation with respect to the forest pests and diseases on Sakhalin. As a result of the Pest Monitoring Team's work in this area, FOREST has raised the awareness of the Russian government to the need to protect Sakhalin's forest. FOREST now is requesting that the Russian government consider establishing a Center for Forest Protection in the region so that the 1 million hectares of forest are forever protected for their estimated value, roughly \$1.4 billion (\$1400 x 1 million hectares).

As a result of the FOREST Project, leading experts on forest protection from Moscow, Krasnoyarsk, Khabarovsk and Vladivostok organized and conducted a training seminar for 80 forest protection staff members of the local Forest Protection Centers and leskhozoes of Eastern Siberia, thereby displaying a clear initiative toward sustainable pest monitoring. An outcome of the training is that participants learned modern methods of forest insect pest monitoring including GIS-technology application and pheromone monitoring. Organized jointly by the Irkutsk Center for Forest Protection and FOREST staff, the seminar took place at the end of December 2002 in Irkutsk, a site chosen specifically for the region's maximum risk to potential Siberian moth outbreaks. Through support provided by the FOREST Project - courtesy of USAID - the local Centers for Forest Protection have been able to employ a new modern labor saving

technology of pheromone monitoring. Twelve leskhozoes are applying the pest monitoring technology. As a result of monitoring 370,000 hectares in Irkutsk, the Center receives sufficient information on Siberian moth population density covering an area of 11 million hectares and thereby protecting an estimated \$15.5 billion (\$1400 x 11 million hectares) forestry resources of valuable to the Russian Federation, and the overall global economy.

With assistance from the FOREST Project in subdividing the tremendous areas of Russian forests into separate forest protection zones, the Ministry of Natural Resources of the Russian Federation will be better able to justify the distribution of limited funds to have the greatest effect in pest and disease monitoring and control. This should be the major task of the Forest Protection Department for the forthcoming year, said the Chief of the Russian State Forest Service Mr. Roschupkin in his annual open letter to Forest Service staff. Working at the leading edge of the forest protection in Russia, the FOREST project has united efforts of Academy of Science researchers and technicians from the local Center for Forest Protection to produce forest protection zoning maps of Krasnoyarskiy Krai. The series of maps demonstrate that the forest susceptible to injury by the most important pest – Siberian moth - occupies only 20 percent of the 35 million hectares of coniferous forest. Efforts to monitor pest populations should be focused only on these 1 million hectares or less than 3 percent of the total forested area. The computer algorithm developed by the Project and successfully implemented by foresters will save valuable resources, making the search for early pest outbreaks 10-20 times more effective, according to Mr. Slyunyaev, Head of the Department of Forest Protection of Krasnoyarsk Committee of Natural Resources. On May 19th, he took part in a teaching seminar organized by the Project for the local Center of Forest Protection, where full sets of forest protection maps were delivered to all 59 leskhoses of the Krai.

4. Project Focus Areas – Activity Information

Ongoing Activities

- Component 2 began development of a new field guide - Forest Insect Pests and Disease Monitoring Methods. The handbook will provide a description of the methods used to monitor needle and leaf insects, stem and soil insects, and other plant-feeders and forest diseases, methods to characterize forest crops, methods required for laboratory analysis, and basic ways of interpreting monitoring results. The purpose of this activity is to: a) cover all potential insects and diseases which can have an impact on the economic value of forests, and b) educate foresters about disease symptoms so they can be appropriately and timely countered to maintain forest values.

Upcoming Activities

- Refocus the component on creating a national legacy and moving toward institutionalization of the Pest Monitoring program. This will be the primary focus of Component 2 in the next two years.

Fourth Quarter

- Continue to focus on opportunities to strengthen institutionalization of the Pest Monitoring program at the national level.

5. Results by Objective (Indicators)

Pest Monitoring Results as per USAID/Russia's Strategic Objectives

SO 1.6 Environmental Resources Managed More Efficiently to Support Economic Growth

<i>IR 1</i>	<i>Previous Total</i>	<i>This Quarter Total</i>	<i>LOP total</i>	<i>Comments</i>
(3) Businesses showing	2	9	9	Local Forest Protection Centers in 7

improved performance				regions; 1 pheromone trap producer and 1 pheromone dispenser producer
IR 4				
(2) Hectares monitored	200,000			
(3) Regions adopting NRM practices	5	8	8	

Fourth Quarter

Same as above- no change noted as yet.

6. Key Deliverables Accomplished Per Approved Year Three Workplan

- Working Group meeting held in Irkutsk (December, 2002); results of trapping reviewed and plans for work in Y4 discussed and agreed upon
- Agreement for Field Guide to Monitoring Tree Diseases approved and funded
- Field preparation for summer season completed
- Hard copy maps created indicating moth counts and outbreak zones from 2002 field trapping completed and distributed
- Trained 80 foresters in Pest Monitoring
- Trained 24 women in Pest Monitoring
- 15 000 full color pocket calendars "Help to save the forest! Don't touch the trap!" distributed
- Report: "Some Economic Aspects of Monitoring Siberian Moth in Krasnoyarski Krai and Irkutskaya Oblast of the Russian Federation" by Dr. Raphael Vartanov of The Heron Group completed and distributed
- Two success stories on forest pest monitoring submitted by The Pest Management Component to USAID Moscow.
- Working Group Meeting held in Vladivostok (April, 2003) and Work Plan review and approval for Y4
- Publication of the map on "Regions of outbreaks of forest defoliators in Irkutsk Oblast' and Ust'-Ordynsk Buryat Autonomous Okrug" and delivery to the forest protection staff of Irkutsk Oblast
- Agreement for preparation of field guide on "Methods of Forest Pest and Diseases Monitoring" approved and funded under the FOREST Project Grant Program
- Work Plan and Budget for Y4 developed and presented to AC in June
- Plans for field work beginning in June completed and field work initiated
- All agreements with Centers of Forest Protection for field work in Y4 signed and funded.
- Agreement to fund short-term economic analysis of mid-1990's outbreak of Siberian moth in Krasnoyarskiy Krai signed and funded.

Publications:

- Baranchikov Y.N., Vendilo N.V., Kondakov Y.P., Kotel'nikov S.I., McFadden M., Matusevich L.S., Mironov V.A., Pet'ko V.M., Popov A.T., Poseleynova V.V., Soldatov V.V., Chemodanov A.V., Cherkashin V.P., Sharov A.A., Epova V.I., Yurchenko G.I. Monitoring of Siberian moth populations in the frames of the USAID project on "Forest Resources and Technologies" (FOREST). In: Proceedings, International Conference "Monitoring of Forest and Urbo-Ecosystems". – Moscow State Forest University Press: Moscow, 2002. – P. 88-89 (In Russian).
- Pet'ko V.M., Baranchikov Y.N., Vendilo N.V., Pletnev V.F., Mitroshin D.B., Lebedeva K.V. Field test of tools for Siberian moth pheromone monitoring. In: Proceedings, International

Conference “Monitoring of Forest and Urbo- Ecosystems”. – Moscow State Forest University Press: Moscow, 2002. – P. 90-91(In Russian).

- Kondakov Y.P., Baranchikov Y.N., Pet’ko V.M., Cherkashin V.P., Korets M.A. Integral evaluation of Siberian moth habitats. In: Proceedings, International Conference “Monitoring of Forest and Urbo- Ecosystems”. – Moscow State Forest University Press: Moscow, 2002. – P. 107-109 (In Russian).
- Kondakov Y.P., Baranchikov Y.N., Cherkashin V.P., Korets M.A. Regions of outbreaks of forest defoliators in Yenisey Siberia. Map. Scale 1:1 800 000. Krasnoyarsk: Institute of Forest SB RASc, 2003. 1 p. (In Russian).
- Epova V.I., Cherkashin V.P., Korets M.A. Regions of outbreaks of forest defoliators in Irkutsk Oblast’ and Ust’-Ordynsk Buryat Autonomous Okrug. Map. Scale 1:2 250 000. Krasnoyarsk: Institute of Forest SB RASc, 2003. 1 p. (In Russian).

Presentations:

- Three presentations were made during the International Conference “Monitoring of Forest and Urbo- Ecosystems”, which took place on November 19-20, 2002 at Moscow State Forest University.

7. Notifications – Issues, Problems, Findings on Work to Date - None

8. Other Information - None

9. Level of Effort

Approximately 30 months were spent on the Pest Monitoring Component in Year Three, see Appendix B for a detailed breakdown of the fourth quarter.

C. Component 3 - Non Timber Forest Products and Secondary Wood Processing

1. Economic Overview

Year Three brought the Component’s greatest successes to date, enabling our SWP and NTFP clients to expand value-added processing, reduce waste, install new production lines, launch marketing initiatives, contact foreign buyers and investors, and improve product quality and international competitiveness. Training in foreign markets, kilns and boilers, NTFP organic certification, saw maintenance and other areas addressed widespread needs of small & medium-sized enterprises in the forest products sector. Trade missions enabled our clients to secure roughly \$3 million USD in supply contracts, learn market standards, and establish new partners in Europe, Hong Kong, China, Japan and Russia. Three new enterprises opened with FOREST assistance; six more expanded existing product lines or launched new products; others began negotiations with European, Chinese, Japanese and American partners for new ventures in sawmilling, MDF production, glue-lam production, kiln-dried clear pine lumber, newsprint production, and packaging and marketing of diverse food and health products. NTFP buyers in the U.S. and Asia showed increased interest in Russian products, especially as they become certified with FOREST’s help; high-grade SWP buyers in Japan and the U.S. likewise demonstrated interest and commitment to developing Russian suppliers, especially as we continue to help the Russian firms improve product quality, delivery times and reliability. Thus, while the year’s results are themselves encouraging, we expect still greater results as these efforts continue to bear fruit in the coming months and years. This will definitely affect the rate of poverty as new contracts are secured and increase the number of jobs in the regions, providing new sources of employee.

Our Association partners have likewise grown stronger, by coordinating training seminars, trade missions, e-commerce, and technical assistance to member companies. They have increasingly shared expertise across associations and from one FOREST Project region to another. Cost-sharing by participants in seminars and trade missions has increased to 50% on average. These are positive signs as FOREST solidifies its legacy in the region, increasingly coordinating activities via the associations to ensure that capacity is in place for them to continue providing these services once FOREST ends. Overall, membership in FOREST partner associations increased by 18% in Year Three; also as a result twenty-five businesses improved performance.

2. Highlights and Results

- Two associations become FOREST Project partners. FOREST established formal partnerships with the Primorski Krai Forestry Industry Workers and Wood Products Exporters' Association and the Siberian Wood Processors Association, together representing 26 SWP companies ranging from small-scale and woman-owned to the major players in Primorski and Krasnoyarsk krais ('Terneyles,' 'Primorsklesprom,' 'Dalnerechenskii DOK,' 'TTS Les'). Both associations aim to promote the efficient development of the forest industry in their respective krais through updated technology, investment and export development, and improved waste utilization. The Siberian Wood Processors Association doubled in size later in the year, when six new members joined: KODOK Company, Karabula Wood Products Transfer Terminal, Siberian University of Technology, Krasnoyarsk Institute of Technical Physics, SibGTU Information Resource Center, and the Kezhemskii Rayon Administration.
- FOREST promotes inter-association linkages. In the highly competitive forest products industry, Russian companies and associations have been reluctant to share any information or expertise that could be seen as helping their neighbors. While this problem remains, FOREST assistance has helped some to realize their true competitors are international ones, and begin to collaborate toward strengthening the sector overall. For example, having received training in strategic plan monitoring, association management and fundraising development, the 'Region 7' Association through a volunteer assignment passed this training on to the Krasnoyarsk NTFP Partnership. The RFE SWP Association, through its close links with the Khabarovsk Technical University, sent experts to assist two Sakhalin Forest Products Producers Association members in waste utilization and value-added processing, and also hosted March's "Kiln-Drying and Boiler Technologies" seminar which attracted participants from Khabarovsk, Krasnoyarsk, Primorski and Sakhalin. Several NTFP companies have begun collaborating to fill export contracts, gained through trade show participation, that are too large for any of these companies to fill individually.
- Three new enterprises open with assistance from FOREST volunteers and consultants.
 - Sakhalin-based 'Vakhrushevsky DOZ' opened a new facility, 'Nord Baikal Ltd.,' in Severobaikalsk, Buryatiya to pursue the processing and export of scotch pine to the U.S. and Asia. Vakhrushevsky acted a FOREST consultant's recommendations about the market opportunities for appearance-grade pine, and was also assisted by two volunteer experts in preparing a feasibility assessment and business plan.
 - 'Vakhrushevsky' also re-organized its operations in Sakhalin into a new company, the 'East Sakhalin Wood Production Company,' with business-planning assistance from a Russian volunteer. The volunteer's assistance enabled the company to stabilize its finances, identify strategic directions and concentrate resources more efficiently. The business plan also enabled the new company to obtain a 1,5 million RUR (\$50,000) loan to reconstruct its facilities, repair dry kilns, and begin producing high quality dry molding. Eleven new jobs have been created and production increased by 12%. On expected completion of the reconstruction process, the company will produce 210,000 m³ of dried lumber per month, thus increasing its production volume by 90% -- amounting to a 50% increase in profits.

- The Okha District, in the oil- and gas-rich region of northern Sakhalin, established a new venture ‘Sakhseverles’ to develop value-added processing of its larch and spruce timber.
- Business linkage missions produce export contracts totaling \$2.1 million.
 - The ‘Region 7’ NTFP Association signed a \$900,000 export contract on behalf of member company ‘Kretchet’ at the “Health Ingredients International Trade Show” in Paris, September 2002. ‘Kretchet’ (the Inter-Regional Public Organization of Hunters and Fishermen) will deliver 300 metric tons of honey per year for three years, employing 204 bee-keepers (15 women) and 10 purveyors (2 women). Also concluded at the trade show were: a contract for CJSC ‘Vostok-Pushnina’ to supply 21 tons of siberian ginseng to Spain; contracts for LLC “‘Kur-Vostok-Urmi’ to supply 500 kg of birch bud to France and an unspecified volume of Chaga anti-cancer mushroom to Japan; and a contract for ‘Amurbiopharm – Taiga teas’ to supply 11 tons of herbal teas to Pharma & Food Company, Hungary.
 - As a result of participation in FOREST’s delegation to the “Natural Products Expo Asia” trade show in Hong Kong, Khabarovsk-based LLC ‘APS Produkty’ concluded a one-year, \$208,000 Chaga export contract with Korean ‘Volchoice Castrol Ltd.’ As the company’s first export contract, it represents a significant achievement for the 15-person enterprise, increasing annual sales by over 500% and providing steady employment to 450 local harvesters.
 - ‘Ruan Co., Ltd.’, also a participant in the Hong Kong show, concluded a one-year, \$657,850 contract with Japan’s ‘Bizarra Corporation’ for shredded and granulated vacuum-packed Chaga and licorice extracts. ‘Ruan Co.’ will provide the necessary licenses and permits and collaborate with LLC ‘Natural Laboratory,’ an RFE NTFP Association, member, for packing and product supply.
 - Limonnik Company signed a \$350,000 contract for sale of health syrups to Korean company ‘Chorus.’
- Trade shows promote exports and foreign partnerships. Eleven company, association, and government delegates from the Russian Far East and Siberia met their Chinese counterparts at the “Sino-Russian Wood Trade & Investment Conference” (Beijing, November 2002). Companies introduced their value-added products and government representatives introduced investment proposals to an audience that included Chinese companies, investors and government bodies as well as international wood industry firms such as Weyerhaeuser, Rayonnier, IKEA, and Jaakko-Poyry. The delegation toured several sites and met interested buyers (IKEA Harbin, IKEA’s contract firms, furniture and flooring manufacturers), while also learning about market requirements and visiting a kiln manufacturer and an MDF plant. Krasnoyarsk krai-based ‘TTS Les’ began discussions with Chinese partners for an MDF joint venture in Kodinsk. While the barriers to entry for Russian value-added products are relatively high, the delegation made tangible progress in learning the market and making direct contacts, and FOREST will continue working with them to develop these contacts – most promisingly, with IKEA which has plans to open an Irkutsk office and is seeking Russian suppliers. Russian delegations also visited the ‘Ligna Plus’ Worldwide Wood Processing Equipment Show in Hannover in May, and took part in a FOREST-organized “Japan Trade Tour” in June.
- FOREST facilitates new technologies and four new product lines in the NTFP sector...
 - ‘Matur,’ a Krasnoyarsk NTFP Partnership member, acquired two compressors and a fast freezer and was able to store 7.5 tons of lingberry (a 400% increase from the previous year). In total, 13 tons of lingberry will be harvested and stored through fast freezing thanks to the Russian volunteer who recommended this equipment. ‘Matur’ also added production volume and increased sales by \$2,000 through a new advertising campaign, provided by a Russian volunteer, which helped the company to target a new market for processed wild berry.

- ‘Nature Lab,’ an RFE NTFP Association member likewise assisted by a Russian equipment expert, acquired an advanced technology to produce adipose extract through CO₂ extraction, significantly increasing the final value of NTFP products. The volunteer helped ‘Nature Lab’ choose an extractor within its financial means and developed the extractor installation layout.
- ‘Forest Products’ (Khabarovsk) and ‘Ekovit’ (Krasnoyarsk), also developed new product lines with FOREST assistance.
- Three in the SWP sector.
 - Krasnoyarsk-based ‘Arcada’ increased sales by 45% over last June by adopting the recommendations of a FOREST volunteer to improve quality of their window production, seal construction, frame-cutting procedures, and wood gluing systems. In addition, Arcada improved marketing through a new website, brochures, and attendance at regional trade shows, and was recognized as one of the highest quality producers of secondary wood processed goods at last year’s “Krasnoyarsk Regional Products Show.”
 - ‘Forest Line’ Company (Sakhalin) initiated a \$130,000 new glue-lam production line oriented toward the Japanese market. Since proper kiln-drying is crucial to this venture, FOREST sent a Khabarovsk Technical University wood-drying specialist to provide recommendations on equipment selection and operation. On his recommendation, ‘Forest Line’ acquired a 40-50 m³ dry kiln from the Khabarovsk-based ‘Promdrev’ kiln company – a beneficial linkage between the Sakhalin and RFE SWP associations. The director of ‘Forest Line’ traveled to Japan to negotiate prices, volumes and financing with Japanese partners and was then assisted by a FOREST volunteer who conducted a market study on edge-glued/finger-jointed products in Japan and Southeast Asia. To further develop the new product line, ‘Forest Line’ took part in the “Japan Trade Tour” to Tokyo, Fukuyama and Nagoya, continuing to develop potential investors and customers. As a vocal participant in the “Kiln-Drying and Boiler Technologies” seminar, ‘Forest Line’ emphasized how crucial the issue of proper kiln drying has been, and how valuable the recommendations of FOREST experts and the opportunity to see ‘Promdrev’ kilns in operation in Khabarovsk before procuring one.
 - Khabarovsk-based ‘Voyage LLC’ opened a new edge-glued panels production line with finance from Weinig, the German equipment supplier.
- FOREST promotes wood waste utilization, improving environmental performance. Cost-effective utilization of small diameter logs and low quality wood is a persistent problem in the RFE. At the request of Sakhalin-based ‘Parusnovskiy DOK,’ FOREST sent a volunteer expert from the RFE SWP Association to make recommendations on increasing production through the minimization of waste. The expert suggested modern technologies to use more of the raw material and proposed a strategic plan for immediate improvement. As a result, lumber output has increased by 10% and waste slabs decreased by 8%. More recently, ‘Parusnovskiy DOK’ won a grant from FOREST for a feasibility study to install a 400 kW biomass boiler to provide heat for the production facilities and dry lumber to a higher standard. ‘Parusnovskiy’ represents a growing sentiment among socially conscious companies in the RFE: in order to produce a higher-value product and conserve Russia’s forests for future production, maximum capture of wastes must be the goal. Only in this way will the forestry sector continue to provide jobs and tax revenue for decades to come. The RFE SWP Association has also been a leader in this effort, not only through inter-association collaboration such as that described above, but also by conducting a study and seminar on small wood utilization on behalf of the Khabarovsk Krai Administration.
- FOREST helps partner companies to access finance. ‘Forest Products,’ a member of Khabarovsk NTFP Association, received a loan of \$13,000 from the local Fund for Entrepreneurs to support installation of a processing and packaging line for three new products: wild berry concentrate, jelly dessert and wild berry jam. The assistance of five Russian volunteers was crucial in

obtaining the loan. The 'East Sakhalin Wood Production Company,' with a business plan provided by a Russian volunteer, obtained a \$50,000 loan to reconstruct facilities and kilns and increase production volumes. 'Voyage' Company also used its volunteer-drafted business plan to apply for finance; while still in discussions with the Russian bank about its \$495,000 loan, 'Voyage' has already installed a portion of the new production line using finance from 'Weinig,' the equipment supplier, and is in negotiations with 'Delta Lease' for additional equipment leasing.

- Web sites lead to e-commerce. Web sites created by FOREST have proved effective in enabling association partners to contact foreign buyers and coordinate e-commerce. The NTFP E-trade outlet has generated sales within Russia of 28,000 rubles, with requests for dried Schizandra, wild berry syrups, and herbal teas. Well over a thousand site visitors have registered on the RFE SWP Association web site, representing 21 countries and six continents; there have been 10-12 requests per week for information on products manufactured by its members, with the majority coming from foreign companies. Meanwhile the Krasnoyarsk NTFP Partnership's website has generated contacts from 15 countries on four continents, especially since the "Health Ingredients" trade show in Paris, and in addition NTFP organizations from Buryatia, Kaliningradskaya oblast, and other regions of Russia have begun to contact the KP NTFP through its Web site with requests for sharing expertise. Through the RFE NTFP association website, member 'Bely Kon' contracted with the Korean company 'Dazzi Plan' to export shredded vacuum-packed Chaga.
- FOREST undertakes external collaboration in NTFP sector. In addition to encouraging collaboration between its own partners, FOREST began working closely with the Wildlife Conservation Society (WCS) and World Wildlife Fund (WWF) to assist NTFP processors and harvesters across the Russian Far East. FOREST and WCS shared the cost of a small NTFP trade mission to Harbin, China, and are now discussing further opportunities to leverage resources for the Asian NTFP markets. WCS and its partner companies, at FOREST's invitation, will also take part in the upcoming NTFP organic certification training in Khabarovsk.
- The Okha District, in the oil- and gas-rich region of northern Sakhalin, established a new venture 'Sakhseverles' to develop value-added processing of spruce and larch timber for nearby Asian markets and locally for the energy subcontractors' large construction projects. This is an important initiative to diversify the regional economy and capture locally more of the benefits and secondary employment from energy sector projects. It will also benefit indigenous groups in the region. FOREST consultants recommended a three-stage strategy to build the wood processing industry in the district and strict enforcement of logging rights. 'Sakhseverles' has already provided 12 new jobs to the region, obtained a short-term harvest lease and begun local timber sales with the goal to move quickly to sawmilling and kiln-drying and later to glue-lam manufacture, MDF or newsprint paper. 'Sakhseverles'/Okha Administration took part in FOREST's Japan trade mission to seek Japanese investors and product buyers.
- 'Limonnik' Company signed a \$350,000 contract for sale of health syrups to Korean company 'Chorus.' This is a joint effort of 'Limonnik' and 'Forest Products,' both members of the RFE NTFP Association, who together are able to meet the volume requirements of the Korean customer.
- The RFE NTFP Association concluded a contract with Japanese company 'Kanou Co. Ltd.' for supply of Matsutake to Japan. Potential suppliers within the association have been identified and routes of delivery have been established.

- FOREST national volunteer experts assisted ‘Forest Products’ to develop a new product line under the brand name “Vitamishka,” including lingonberry jelly, jam and dessert. The company introduced the new line at May’s “Dallesexpo 2003” trade fair in Khabarovsk, with media representatives, Khabarovsk Krai Government and FOREST participating in the product launch.
- Krasnoyarsk-based ‘Ekovit,’ a FOREST grantee, has completed production facility upgrades and equipment installation, collected all required data, and obtained legal approval for the production of Florentine water and natural fir extract. In collaboration with another FOREST grantee, the Information Resource Center-Les SibGTU, ‘Ekovit’ recently participated in the IRC’s “Complex Usage of Krasnoyarsk Krai Forest Fund” seminar and gave a seminar of its own entitled “The Production of Fir Oil in Krasnoyarsk Krai.”
- ‘Dinkoma,’ an NTFP processing company based in Primorski Krai, produces NTFPs for a unique application -- health drinks for laborers who work in severe health-adverse environments. With FOREST assistance, ‘Dinkoma’ presented their products at May’s conference on labor protection issues presented by the Khabarovsk Krai Administration. Mining companies expressed interest in purchasing ‘Dinkoma’ health drinks for employees in an effort to provide a recommended allowance of daily nutrients to employees and maintain a high level of health within the industry.
- Khabarovsk-based ‘Voyage LLC,’ having worked with two FOREST volunteers to develop a market study and business plan, opened a new edge-glued panels production line with finance from Weinig, the German equipment supplier. Within a year, ‘Voyage’ has installed a sawmill (Strojcad), 100 m³ dry kiln complex (Katres), and 1 MW biomass boiler; the “Ligna Plus” trade show offered the opportunity to finalize purchase of an edge-laminating/finger-jointing line from ‘Weinig’. ‘Voyage’ received training on boiler operation and technical assistance from Component 4 thermal engineers to set up its boiler with proper air and heat balances and water treatment measures. Besides providing heat, the wood waste-fired boiler will power kilns to dry about 5,000 m³ of lumber per year, bringing \$130,000 added value per year and about \$10-20 thousand in avoided landfill costs. ‘Voyage,’ a model of joint C3/C4 assistance to small companies, served as a site visit for participants in the March “Kiln-Drying and Boiler Technologies” seminar.
- An international expert assisted ten Khabarovsk and Krasnoyarsk companies in refining their packaging, labeling and marketing strategies for foreign markets. The expert presented seminars on international packaging and labeling standards and visited production facilities to recommend improvements to production and packaging processes. Clients included ‘Forest Products,’ ‘Amurbiopharm,’ and the ‘Region 7’ Association in Khabarovsk, and ‘Ekovit,’ ‘Vostochny,’ ‘Zhivaya Voda,’ ‘Manskaya Dacha,’ ‘SLL Plastic,’ ‘Fito-Sinto,’ and ‘Yanezh’ in Krasnoyarsk. The expert and hosts discussed improved packaging for honey, jams and jellies, herbal teas, syrups, gelatin desserts, wild berry juices, fir and pine oils, confectionery products, pine nuts, frozen berries and berry extracts, herbal remedies and aroma therapies. Companies observed finished product/labeling examples from U.S. retailers, discussed ways to distinguish RFE products in foreign markets, market segmentation and promotion strategies, legal requirements, and even received contacts for new and used packaging equipment dealers. Finally, the expert provided contacts with his own company, Concord Foods, and agreed to assist the clients in contacting Cosco, Trader Joe’s and other potential buyers of private label packages as well as helping them to locate packaging equipment in the U.S.

3. Success Stories

“Saw-Filing Training Center” benefits Sakhalin Association and companies

The Sakhalin Educational Center for Cutting Instrument Specialists (“Saw-Filing Training Center”), the first of its kind in Sakhalin Oblast, was established this year by the Sakhalin Association with a \$30,000 grant from FOREST. FOREST’s modest investment has already paid handsome dividends in improved production efficiency and product quality for companies and improved sustainability for the Association, and truly represents a model for USAID-funded grant and technical assistance.

Established in collaboration with the Oblast Administration’s Departments of Forest Industry and Education and association member Dary Morya, the Center has graduated two classes of saw-filing specialists and begun providing direct saw-filing services to companies on a contract basis. Companies have reported labor productivity increases of 13-20%, and 10% increased production per shift of export-quality products. Better saw maintenance means less raw material waste (improved environmental performance), higher prices from a more consistent, higher-quality cut, and reduced costs from lower engine loads and power inputs. Saw-filing specialists have also received salary increases (one by 8%, another doubled) after completing training; clearly companies see the advantages of such training and are willing to invest in it. As a result, additional training rounds are planned, with one-month courses for experienced specialists and three-month courses for beginners, and continued training of the trainers in Khabarovsk, Krasnoyarsk and Saint Petersburg to ensure they are teaching the most advanced technologies and practices.

To date the Saw-Filing Center has generated \$3,107 for the Sakhalin Association -- \$1, 882 in training fees for 11 specialists and \$1,225 for direct saw-filing services.

SWP and Biomass collaborate on the company- and sector-level

In addition to providing joint assistance to individual companies such as ‘Voyage,’ ‘Parusnovskiy’ and ‘TTS Les,’ the FOREST Project’s secondary wood processing and biomass components have collaborated at the sector level through the kiln-drying/boilers theme: equipment choices and proper operation & maintenance of boilers and kilns are necessary to succeed in kiln-dried product markets, while the ability to enter such markets significantly strengthens the financial justification for boiler investments.

While this type of assistance is ongoing in individual company assignments and trade missions, the most significant single event this year was March’s seminar in Khabarovsk, “Dry Kilns, Boilers and Wood Wastes: Economic Expediency, Technical and Technological Solutions,” co-hosted by the Khabarovsk Krai Timber Industry Ministry, RFE SWP (‘DOD’) and FOREST. Responding to the Krai Governor’s mandate to expand kiln-drying capacity to 400,000 m³ per year by 2008, the seminar was attended by 65 SME managers from Khabarovsk, Krasnoyarsk, Primorski and Sakhalin. Cost-sharing by participants of up to 45% indicated the high priority managers place on wood waste utilization and kiln-drying improvements, to increase returns from local markets and to access foreign markets for kiln-dried wood.

Kiln-drying experts from Moscow, Khabarovsk and Krasnoyarsk reviewed trends in kiln-drying and methods for drying Russian species to proper specifications. Companies operating Russian- and foreign-made kilns and boilers provided participants the opportunity to evaluate different equipment options; they also heard from the kiln manufacturers and from kiln-dried product buyers (IKEA and Japanese buyers). Component 4 presented the boiler and wood waste utilization perspective, including its technical assistance to several companies and project successes to date. The seminar also featured potential funding sources for kiln and boiler investments, with presentations by USAID’s Development Credit Authority, ‘Delta-Lease- RFE’, Regiobank, Vneshtorgbank, and the Bank of Moscow, who described lending/leasing requirements for forestry projects. Participants visited companies in Khabarovsk operating Russian- and European-made kilns to hear about the pros and cons of various kiln models and get practical tips on operation and quality control.

FOREST received an official letter of thanks from 1st Deputy Timber Industry Minister Pankov for the seminar. Primorski-based 'Terneiles' Company and Krasnoyarsk-based 'Biva-Les' both arranged for their engineers to visit with Professor Mansurov of the Siberian State University to learn more about proper larch drying, and requested further consulting on-site by FOREST volunteer kiln-drying experts. Sakhalin-based 'Forest Line' Company, on seeing the 'Pomdrev' kiln in operation at a Khabarovsk company, decided to install this kiln at his site. The seminar indicated the strong interest of banks and other finance institutions in this sector, but also the need for closer contact with SME managers to build mutual understanding and lower barriers to lending.

As a follow-up to the seminar, a Russian FOREST volunteer dry-kiln specialist traveled to St. Petersburg, Moscow and Ekaterinburg to compile data on Russian and foreign kiln models. He coordinated the Russian distributors of Czech 'Katres' kilns, Italian 'Nardi,' 'SECEA,' and 'INCOMAC,' Taiwanese 'Global Edge,' the U.S.-made 'Koetter' and the German 'Eisenmann,' as well as the Russian manufacturers of 'Kaper 2-30,' 'Geizer' (St.Petersburg), 'Termoiks' (Bryansk), 'Negotiant-Engineering' (Moscow), and 'Ekodrev' (Ekaterinburg). Russian models have similar capabilities as their international counterparts but tend to be preferred by the SWP managers due to lower cost. The volunteer's report summarizes available models, characteristics, dimensions, capabilities, efficiency, prices and contacts – information in high demand by FOREST clients and trade mission participants, who increasingly realize that expanding kiln-drying capacity and improving drying results are among the top needs to improve export capabilities.

Components 3 and 4 collaboration on this theme will continue in Year Four, particularly in the planning of joint study tours.

Khabarovsk and Krasnoyarsk delegates attend “Ligna Plus” equipment show in Hannover.

FOREST coordinated a 9-member delegation of Khabarovsk and Krasnoyarsk timber industry and government representatives to meet equipment suppliers and joint venture partners at the “Ligna Plus” Worldwide Wood Processing Equipment Show in Hannover, Germany, May 26-30. The delegates' goal was to identify technologies, evaluate business proposals and partners for existing and planned sawmill, wood processing, and wood waste utilization projects. Krasnoyarsk-based 'TTS Les' conducted negotiations with the German 'Lorenz' Company on sawmill, dry kiln and planer procurements and expects to conclude a \$480,000 procurement contract in the near future. The company also held negotiations with the Austrian 'EGGER' Company on starting a joint venture to manufacture fiber and particle board in Krasnoyarsk Krai; these discussions will continue through the Moscow-based chief of EGGER's design group. The 'Angarskaya Timber Industry Company,' also of Krasnoyarsk Krai, held negotiations with the German 'Moringer' Firm and requested development of a business proposal for sawmill procurement. This is an important step for 'Angarskaya,' which as a participant in the “Sino-Russian Wood Trade and Investment Conference” realized the need to move from timber harvest to value-added processing. The 'SAB' and 'Kooper' companies also offered bids to 'Angarskaya' and 'TTS Les' on sawmilling, planing, finger-jointing and gluing equipment; part of the value of events such as “Ligna Plus” is the opportunity they give Russian firms to receive competitive bids on their value-added proposals rather than just working with one equipment supplier.

Khabarovsk-based 'Khorskii Biochemical Plant' continued negotiations with German companies on the establishment of a joint venture for chemical and thermo-mechanical newsprint production – an environmentally friendly operation that would address the wood waste problem in the Krai and produce a product in high demand worldwide. The partners prepared project terms for presentation to investors and arranged for the German companies to visit the Khorskii Biochemical Plant to move the project forward. 'Voyage' finalized a business deal with the 'Weinig Gruppe' (Germany) for procurement of two glued furniture components machines – a further step in FOREST's assistance to this company that has included a market study, business plan, and technical guidance in boiler installation and operation. 'Voyage' is currently negotiating with 'Delta Lease' to acquire additional equipment on lease.

Finally, a post-exhibition visit to 'Weinig' led to a joint initiative by 'Weinig' and the Khabarovskii Krai Ministry of Natural Resources to establish a 'Forest Technologies Training Center' in Khabarovsk. Deputy Minister Soldatchenkov has requested FOREST's participation in the establishment of this Center. 'Weinig' has become an active FOREST collaborator in recent activities, having become a member of the 'DOD' Association, participated in the Kiln/Boiler Seminar and other activities, and offered through its Vladivostok office to assist in coordinating upcoming trade mission activities.

In an encouraging indication of the relevance and level of support for activities like "Ligna Plus," four participants cost-shared at 50% and three more paid all expenses, with FOREST continuing its policy of providing full support only for Government representatives. The overall cost-sharing percentage was over 50%.

Russian delegation visits Japan on FOREST-organized trade mission

Eight SME managers from Sakhalin and regional Administration representatives from Sakhalin, Khabarovsk and Krasnoyarsk traveled to Fukuyama, Nagoya and Tokyo, Japan on June 21-30 to meet potential buyers, partners and investors. In contrast to earlier trade delegations, this "Japan Trade Tour" was entirely designed and organized by Winrock's home and Russia offices, with Tokyo-based 'Japan Lumber Journal' (JLJ) contracted to conduct the Japan-side promotion, securing of participants and coordination of seminars and site visits. The goal was to develop exports to Japan central/southwest regional markets (with Hokkaido and the north already well developed) and to help the Russian firms learn market requirements first-hand.

In each city, Russian delegates – having been coached by a FOREST volunteer -- gave Powerpoint presentations in conference format, summarizing company profiles, products available and investment proposals, followed by opportunities to interact and negotiate one-on-one in a facilitated networking session. Conference promotion via Fukuyama Lumber Products Association in Fukuyama, Rinkei Shinbun News in Nagoya, and JLJ's contacts in Tokyo helped to secure a Japanese audience including wholesalers, laminated lumber manufacturers, house builders, and the major trading/importing firms active in the Russian timber trade. Following each conference day, the delegation made site visits (organized by JLJ) to large sawmill and laminated lumber firms, drying and processing equipment manufacturers, timber ports and trading facilities. Visits gave tour participants the opportunity to observe equipment and operations, learn the strict requirements on grades and dimensions for the Japan lumber market, and draw lessons for their own mill expansion projects relative to the specialized Japanese regional markets.

Participants noted the Tour was an excellent learning experience for these relatively unknown regional markets, even as the Japanese habitually cautious business approach will require a long trust-building period. In particular, there are obvious benefits to both sides of eliminating intermediaries (trading firms), but these will continue to be the main conduit to Japanese end-users until sufficiently strong relationships can be built showing the Russian firms as reliable suppliers of the appropriate volume and grades. The Tour re-emphasized the Japanese interest in Krasnoyarsk red pine (with prices quoted on one site visit even higher than U.S. appearance-grade prices) as well as the need to expand and improve kiln-drying. The delegation observed high-quality Russian pine from Igirma-Tairiku and Vanino-Tairiku at the Kawasaki Port lumber terminal and learned from Tairiku representatives about their product requirements. They also visited ultramodern facilities producing high-quality laminated products, moulding, veneer, and furniture components and kiln-drying hardwoods and softwoods – visits that suggested some long-term directions for the Russian industry as such production leaves Japan in search of lower-cost locations.

In the most concrete immediate results, Fukuyama-based 'Shimizu Lumber' made plans to visit the Sakhalin and Krasnoyarsk tour participants to develop partnerships, and Tokyo-based 'Rossiyan Trading' will visit the Khabarovsk Krai Administration to negotiate on potential projects there (biomass facility, manufacture of house parts, and dry kiln sales). 'Forest Line,' 'Aerotravel,' and 'Commodity Trade Trans' will continue to develop contacts with 'Doit Company' (Tokyo DIY retailer) and 'Shimizu Lumber'. 'Sakheks' plans to move from green to kiln-dried lumber sales, and both 'Nord Union' and 'Sakhseverles' made contacts to purchase used Japanese woodworking/glue-lam equipment.

4. Project Focus Areas – Activity Information

Ongoing Activities

- 'Region 7' conducted its annual meeting, attended by 27 members, and adopted its new strategic plan prepared with assistance of an American volunteer.
- Sakhalin Forest Product Producers Association annual meeting, June 15.
- SWP and NTFP database updated.
- Grant monitoring and implementation for 'DOD' and 'Les SibGTU' Information Resource Centers, Sakhalin Saw-Filing Training Center, and Ekovit, Krasnoyarsk.
- NTFP harvest regulation development in progress.
- All SWP and NTFP market studies complete, translated and distributed to clients.
- SWP and NTFP Working Groups meeting regularly and providing guidance on activity planning and specific issues as needed (e.g. NTFP regulation drafting).
- Ongoing coordination with Volunteer Component for diverse assignments.
- Siberian Wood Processors Association ('SOD') conducted its first strategic planning exercise with assistance from a U.S. volunteer, and adopted the strategic plan at its first Annual Meeting, April 1, also facilitated by FOREST.
- RFE SWP Association annual meeting, May 16.
- RFE NTFP Association annual meeting, May 19.
- KP NTFP Partnership annual meeting, May 19.
- Website development for 'SOD' Association.
- Coordination of Hannover, Japan, DallesExpo and Guangzhou trade missions.

Upcoming Activities

- NTFP organic certification training and pre-inspection consultations with individual companies (July 28-August 8)
- NTFP organic certification inspections (September-October)
- World Tea Festival in Moscow, with 3 association partners and 6 NTFP companies exhibiting (September 6-7)
- U.S. NTFP trade show and study tour (September-October)
- Possible NTFP trade show for Asian markets (October-December, to be determined)
- Combined Component 3/4 study tour for the U.S. Pacific Northwest moulding & millwork market, focusing on biomass/kiln installations and kiln-dried product marketing, coinciding with a SWP trade show in the U.S. (Fall 2003)
- Possible follow-up tour bringing major U.S. moulding & millwork firms to Siberia for training and mill tours (Spring 2004)
- Follow-up activities to Japan and Ligna trade missions.
- NTFP and SWP Association development and strengthening (all trade missions and study tours to be coordinated via associations and with 35% or greater cost-sharing by participants)
- Coordination with new USAID SME Development activity
- Association Presentation Skills Training to be given by a volunteer

- Other trainings and training-of-trainers on topics to be determined (grant writing, trade mission coordination, advocacy, contract negotiation, investment terms development, etc.)
- Facilitate collaboration between associations and/or development of a regional association
- Continue NTFP harvest regulations development
- Continue existing collaboration with SABIT, BISNIS, and other U.S. Government and private industry partners toward the marketing and/or certification of Russian secondary wood products

5. Results by Objective (Indicators)

SO 1.6 Environmental Resources Managed More Efficiently to Support Economic Growth				
	<i>Year Three</i>	<i>Fourth quarter</i>	<i>Life of Project</i>	<i>Details</i>
IR 1.6.1.1 - Business associations strengthened	2	0	7	This indicator counts only new partner associations, not continued activity of existing partners, which is reflected in sub-indicators. Six of seven association partners recorded results on the sub-indicator for development of new services in Year Three.
IR 1.6.1.2 - Businesses participating in associations	34	6	203	26 new members through new association partnerships; 'Region 7' and 'DOD' each added a member in third quarter; 6 new members joined 'SOD' in fourth quarter.
IR 1.6.1.3 - Businesses showing improved performance	25	4	39	<ul style="list-style-type: none"> • 'Sakhseverles' (new investment, added jobs, increased profit per unit harvested) • 'Limonnik' (increased export sales) • 'Ekovit' (new investment, new product line) • 'Dinkoma' (increased domestic sales) The following businesses earlier improved performance and can be counted only once toward indicator IR 1.6.1.3; however they made further improvements in the fourth quarter: <ul style="list-style-type: none"> • 'Forest Products' (new product line) • 'Voyage' (new investment, new product line) • 'Parusnovskiy' (reduced waste, increased profit per unit harvested)
SO 2.1 More Open, Participatory Society				
	<i>Year Three</i>	<i>Fourth quarter</i>	<i>Life of Project</i>	<i>Details</i>
IR 2.1.2.2 - Advocacy campaign conducted	1	0	1	Sakhalin and 'DOD' Associations' joint appeal to regional administrations for changes in export duties to favor processed wood products over raw logs.

Other Relevant Indicators				
Training participants (female) Female number represents a minimum; more women may have participated but numbers not available.	214 (24)	55 (1)	509 (82)	Trainings in fourth quarter: <ul style="list-style-type: none"> • ‘SOD’ strategic planning training: 3 • “Cross cultural communication” training for Japan Tour: 8 • “Fir Oil Production Seminar”: 9 (1 female) • NTFP packaging/labeling training: 10 companies • “Complex Usage of Krasnoyarsk Krai Forest Fund” seminar offered by IRC- Les SibGTU: 5 • “Japan Trade Tour”: 11 • “Ligna Plus”: 9
	<i>Year Three</i>	<i>Details</i>		
New employment	687	<ul style="list-style-type: none"> • ‘East Sakhalin Wood Production Company’: 12 in new enterprise • ‘Kretchet’: 214 seasonal due to new contract • ‘APS Produkty’: 450 seasonal due to new contract • ‘Sakhseverles’: 12 in new enterprise 		
New enterprises	3	‘Nord Baikal,’ ‘East Sakhalin Wood Production Company,’ and ‘Sakhseverles’		
New production lines, products, or technologies at existing enterprises	6	<ul style="list-style-type: none"> • NTFP: ‘Matur,’ ‘Nature Lab,’ ‘Forest Products,’ and ‘Ekovit’ • SWP: ‘Forest Line’ and ‘Voyage’ 		
Overall increase in association membership	18%	Increase over last Annual Report’s reported figure of 172 partner association members		
Export contracts through trade shows and e-commerce (number and value)	10 \$2.1 million	As noted above. \$2.1 million represents a minimum estimate, as some contracts reported did not provide a dollar amount.		

6. Key Deliverables Accomplished Per Approved Workplan

Year Three Task per Workplan	Deliverables per Workplan	When and How Accomplished	Comments
i. Identify Associations to Work with in Year Three	At least one association selected, MOU signed	Partnerships with 2 associations established: SOD, PALEX	LOP total: 7 partners. Deliverable exceeded.
ii. Update Databases of Association Members, and Create Websites for Year Three Partner	Up-to-date databases in hard and electronic formats for each association and websites created for Year Three partners	Database complete. Routine maintenance of earlier partners’ websites ongoing. SOD website completed in fourth quarter.	Updated database for all companies (SWP and NTFP) and Associations has been developed, all information updated, and submitted to Project management for approval.

Associations			
iii. Facilitation of Annual Association Meetings	Annual meetings convened, annual reports produced and distributed	SOD: April 1, 2003 Region 7: January 2003 RFE SWP Association: May 16. RFE NTFP Association: May 19. KP NTFP Partnership: May 19. Sakhalin Association: June 16.	
iv. Development of Updated One-Year Strategic Plans	Strategic plans developed	SOD, Region 7 strategic plans developed by volunteer experts and adopted at associations' annual meetings	PALEX has been an unresponsive partner and no strategic plan assignment was conducted.
v. Support Associations	Various, including "Evaluation association support to date, reports from consultants with specific recommendations on the specific issues identified"	Various	Association Management & Advocacy (SFPPA, SOD); Trade show coordination (RFE NTFP, Region 7, SOD, SFPPA); saw-filing training (SFPPA); NTFP Export Standards Seminar (RFE NTFP); Kiln/Boiler Seminar (DOD); e-commerce (DOD, RFE NTFP, KP NTFP); volunteer assignments.
vi. Support Association Members	Various, including "Training program established for association members in at least three different topics"	Various.	Company assessments by SWP expert (16 companies); Seminar on NTFP certification standards; Seminar on Kiln-Drying/Boiler Technologies; volunteer assignments; trade show participation. Routine and ongoing company support includes facilitation of contacts with international partners, business planning, feasibility studies, technology recommendations, finance facilitation, etc.
vii. Delegation to International Trade Shows	Participation in international trade show	"Health Ingredients," Paris, September 2002; "Sino-Russian Wood Trade & Investment Conference,"	Deliverable exceeded due to success of trade shows

		Beijing, November 2002; Ligna Plus, Hannover, May 26-30; DallesExpo, Khabarovsk, May 15-18; Japan Trade Tour, Fukuyama, Nagoya and Tokyo, June 21-30	
viii. Market Information Studies	Reports on domestic and international markets; database with contact information and specifications of domestic and international buyers	All seven completed, translated and distributed to association partners	<ul style="list-style-type: none"> • Herbs Research Foundation, <i>Non-Timber Forest Products and Markets for Khabarovsky Krai, Primorsky Krai and Irkutsk Oblast: A Rapid Assessment</i> • Herbs Research Foundation, <i>Krasnoyarsk Non-timber Forest Products: Preliminary Assessment</i> • Khabarovsk State Academy of Economics and Law - Far Eastern Center for Market Research, <i>NTFP Survey for Khabarovsky, Primorsky krais and Sakhalinskaya oblast</i> • All-Russia Research Institute for Silviculture and Forestry Mechanization (ARISFM), <i>Marketing study of non timber forest products in Krasnoyarsk Krai and Irkutsk Oblast</i> • Wood Resources International, <i>Secondary Wood Products and Markets for Siberia and the Russian Far East</i> • Wood Resources International, <i>Markets for Secondary Wood Products from Siberia and the Russian Far East: Focus on Asia</i> (with detailed appendix: Asian markets research trip report) • Ministry for Economic Development and Trade - Far Eastern Market Research Institute, <i>Surveying the new phenomena and tendencies in the wood production markets of the Primorsky, the Khabarovsky krais and the Sakhalinskaya oblast</i>
ix. Support Women and Minority Owned Businesses in the Forest Products Industry	Survey completed by October 2002, training continuous		Large quantity of information on women employed in the forest industry has been compiled by Component staff, which can be summarized and reported if directed by FOREST Project management. Women/minority focus has been incorporated into ongoing activities by involving women in training, assisting indigenous communities/enterprises, etc.

x. Sector Based Workshops	Workshop proceedings		“Sector Based Workshop” cancelled to devote resources to more demand-driven activities, such as kiln seminar and trade missions
SWP and NTFP Working Group Meetings	Meeting Minutes	2 (SWP and NTFP Working Groups convened)	Both WG provided recommendations for next year’s activities

7. Notifications – Issues, Problems, Findings on Work to Date - None

8. Other Information: Volunteer Summary

- Total volunteer experts hosted by Component 3 during the year: 44 (respectively 12 U.S., and 32 Russian)
- 10 companies received direct technical assistance: Vakhrushevsky/Aerotravel DOK, Forest Products, Matur, Parusnovsky DOK, Forest Line, Standart les, Prirodnaya Laboratory, Indigenous community Amur, PK VerkneBureinsky, Krasnoyarsk RIC, Khabarovsk RIC
- Volunteers developed fundraising programs for RFE NTFP Association, Krasnoyarsk NTFP Partnership, and Region 7 Association
- Volunteer experts delivered training seminars in NTFP organic certification, kiln-drying, Association management, NTFP packaging, and business/cross-cultural communication skills
- Component 3 volunteer assignment deliverables include 1) Manual on organic certification, 2) Manual on kiln equipment and kiln-drying technologies, 3) Strategic Plan for ‘SOD’ association, 4) Strategic Plan for ‘Region 7’ Association, and 5) Market analysis of the Japan lumber market for “Japan Trade Tour” participants.

9. Level of Effort

Approximately 78 months were spent on the Non-Timber Forest Products/Secondary Wood Processing Component in Year Three, see Appendix B for a detailed breakdown of the fourth quarter.

D. Component 4 - Renewable Energy Alternatives/Biomass

1. Economic Overview

The Russian Minister of Natural Resources, Valery Roschupkin, has been at the forefront of pushing new approaches to stimulate economic growth within the Russian timber industry. Forests are one of Russia’s most important natural resources and especially important to the economy of Siberia and the Russian Far East. FOREST is playing a critical role in demonstrating the use of biomass wastes in producing substantial profits and savings for Russia’s timber companies. With raw logs as the primary export product from the Russian Far East, increasing value added processing through drying capacity fueled with biomass wastes produces higher quality wood products that are more competitive in the international market. Biomass energy systems also produce significant cost savings by utilizing biomass wastes for which companies currently pay a disposal cost, and by replacing purchased fuel and electricity with self-generation.

Given the limited experience with biomass energy in Russia, the biomass team is creating biomass energy models that both decrease the cost of energy and increase the reliability of supply to the forest products industry in Siberia and the Russian Far East. The team is developing a core base of Russian experience, guiding Russian partner companies, design firms, and manufacturers of equipment in understanding

biomass energy systems, and improving the design, construction, testing, and performance of locally manufactured boilers and turbines. One company, Igirma-Tairiku, is expected to convert 120,000 m³ of woodwastes per year to produce an additional 150,000 m³ of dry lumber for export to Japan, Austria, and Germany, resulting in an estimated profit of over one million USD/year. With effective management, the forest products industry should also be the largest employer in the region for the foreseeable future.

2. Highlights and Results

- Partner-company Terneyles (Primorskiy Krai) received a completed feasibility study for the construction of a 30 MW cogeneration plant from design company Turboblock-Service. Terneyles' study assesses the feasibility of constructing a biomass energy facility, which would benefit not only the company's facilities and production capabilities, but also approximately 6,500 people living in Plastun settlement. FOREST project experts assisted Terneyles in preparing bid packages to negotiate better prices from Russian and international suppliers. This cogeneration plant will save the company over 200,000 USD from the cost of disposing the wood-wastes, and over 500,000 USD from the cost of purchasing power from the grid.
- The Krasnoyarsk Krai has incorporated Yartsevo's proposed construction of a cogeneration plant (4 MW thermal energy) in its Forest Industry Development Program. The plant will provide power and heat to 1,100 beneficiaries in the remote settlement of Zotino, and to a new sawmill to produce 50,000 m³/year of high quality dry lumber. Based on design and business plans developed with FOREST project assistance, including technical expertise and guidance to overcome technical design, installation, and operation problems in installing Kaluga steam turbines, Yartsevo is appealing to IBRD to finance its biomass project. Through FOREST expert advice, Yartsevo and their design firm increased their understanding of the equipment needed for properly sizing and storing biomass fuels prior to burning, completing combustion and controlling air pollution emissions, and increasing water and fuel quality.
- In a March 2003 design review session, FOREST experts enabled partner companies and design firms to move forward with their proposed biomass projects. Component 4 identified opportunities for improved fuel storage coverage and handling, boilers, grates, steam extraction, and other elements of the biomass combustion system. The session was instrumental in pushing forward projects that had temporarily stalled because of lack of expertise on how to resolve technical design, installation, and operational problems.
- Technology transfer continued between the counterparts in Russia and the U.S. as design firms Turboblock-service and Energomash-Vostochnaya Sibir received technical recommendations from FOREST for timber companies Terneyles and Eniseyles. Included in the recommendation were options on fuel handling and fuel supply systems for the cogeneration plants, as well as a database on U.S.-based biomass energy equipment producers.
- As a follow-up to the June 2002 investment workshop, partner-companies Terneyles and Eniseyles received letters from the Bank of Primorye, Moscow Business World Bank (MDM), Bank for Foreign Trade (VTB), and Bank of Moscow with expressions of interest in financing the construction of biomass facilities.
- TTS-Les, the largest member of an association of woodworking companies, has improved its understanding of how investments in biomass energy can support the development of higher value-added products for export. With approximately 139,000 tons of wood-wastes produced annually, TTS-Les aims to construct a biomass-fired cogeneration plant (30 MW thermal energy) to supply power to itself and its associated companies and to acquire additional dry kilns. This plant will save energy and costs from disposed wood-wastes and add value to wood products for a total added value of over seven million USD/year. FOREST experts advised the company on how to add value to forest and wood products, what the potential revenues from value added processing are, and the options for value added product sales. Technical options for the 30 MW (6 MW power) biomass cogeneration plant are to be identified in a TEO.

- Igirma-Tairiku (Irkutsk Oblast), a long-standing FOREST partner company, purchased two biomass DKVR 10-13 Biysk boilers to supply energy for 10-12 new dry kilns and to heat a new sawmill. Working alongside engineers from the Biysk Boiler plant, FOREST biomass energy experts improved the technology and modified the design of these boilers, rendering them capable of efficiently burning bark and sawdust. Two of the four boilers are expected to be installed and in operation by October 2003. The project is well underway as Igirma-Tairiku has already completed construction of its boiler house, fuel preparation, handling system and has begun erecting two boilers. With Kaluga Turbine Works specialists, the company plans to install a 3.5 MW turbine-generator to satisfy its power demand.
- Dynasty of Voyage, LLC (Khabarovsk) launched a 1 MW Kirovsky biomass boiler to supply heat to two KATRES dry kilns (total capacity 100 m³). Voyage served as a model site for participants attending a Khabarovsk krai/FOREST-hosted Dry Kiln and Boiler Seminar. Voyage now utilizes wood wastes to fire the boiler, providing heat to the kilns to dry about 5,000 m³ of lumber per year. As a result, profits of USD 130,000 in added value per year and savings of USD 10-20 thousand in avoided landfill costs are expected. FOREST biomass experts trained engineering staff at Voyage on how to increase the efficiency of the boiler from 30% to 60%, including through the design of an automatic control system, and how to increase the efficiency ratio through improved fuel preparation to 85%.
- Based on design and business plans developed with FOREST project assistance, Parusnovskiy DOK (Sakhalin) received concessional financing in the amount of USD 100,000 from the Oblast Administration program of local business development and the local Sakhalinvest bank. Under the program, the Administration will pay 50% of the interest for the company. Members of the FOREST Advisory Council and the Component 4 Working Group worked out the terms of this financing for Parusnovsky DOK to design and construct a biomass boiler and dry kiln complex system (0.45 MW thermal). The company expects to earn an additional USD 15 per cubic meter from the production of higher quality lumber.

3. Success Story

Igirma-Tairiku purchases four biomass boilers from Biysk Boiler Plant

FOREST partner company, Igirma-Tairiku (Irkutsk Oblast), signed a memorandum of intent with Biysk Boiler plant to purchase two biomass-fueled 15 MW boilers. FOREST Project experts carried out tests on the company's existing fuels and boilers and helped prepare design recommendations used by Igirma-Tairiku for its negotiations with Biyskenergomash. The FOREST experts also reviewed and made recommendations on fuel handling and storage considerations.

As a regional industry leader with strong financing opportunities, Igirma-Tairiku eventually plans to install four biomass-fired DKVR/10/13 boilers (25 MW thermal energy) from Biyskenergomash to supply energy for 10-12 dry kilns. These new boilers will convert 120,000 m³ of wood-wastes per year into heat to produce an additional 150,000 m³ of dry lumber per year for export to Japan, Austria and Germany, with an estimated profit of over one million USD/year. This investment in the boilers will also produce local jobs for construction in the short term and increase employment at the processing facility in the medium and long term.

December 2002: Gorinskiy KLPK launches 1 MW biomass boiler, Amurskiy DOK buys 2.5 MW biomass boiler

The companies, Gorinskiy LPK and Amurskiy DOK, having come highly recommended from Vneshtorgbank, worked with FOREST Project experts in acquiring, installing, operating, and maintaining their biomass energy facilities reliably and cost-efficiently. Gorinskiy installed a steam wood-waste boiler (1 MW thermal energy) and three dry kilns (300 m³ total capacity). The company is actively seeking market opportunities to sell its higher quality wood products. Terms of lumber export contracts are being

developed with ITOCHU Corporation, Japan. Amurskiy, having purchased a hot water biomass boiler 2.5 MW from Kovrov Boiler and Dry Kiln Plant, Russia, asked for FOREST expert advice to improve the water quality and boiler for the heating system, and to control and monitor the equipment. Amurskiy plans to put its biomass boiler into operation in September 2003 and expand its particle board production from 8,000 m³ to 20,000 m³.

Voyage Company Launches a 1 MW Biomass Boiler

In April 2003, FOREST partner company, Voyage, LLC (Khabarovsk) launched a 1 MW biomass boiler. Component 4 biomass experts worked alongside Voyage engineers to commission, operate, and test the biomass facility, and utilize automatic control systems to efficiently supply heat for a Kartres drying kiln complex (100 m³). The new project will enable Voyage to utilize wood wastes to fire the boiler and provide heat and power to the dry kilns to produce about 5,000 m³ of high quality lumber per year for export. Profits of USD 130,000 of added value per year and about USD 10-20 thousand per year in avoided landfill costs are expected.

With the installation of its biomass boiler and kiln complex, Voyage served as a model firm for participants in a recent Khabarovks krai/FOREST-hosted kiln and boiler training seminar. Seminar participants visited Voyage to increase their understanding of operational issues and technology options (Russian and foreign) of biomass systems. With expert FOREST advice, Voyage has also installed a Strojcad sawmill and plans to install a Weinig edge-laminating/finger-jointing line. Having worked with two FOREST volunteers in February 2002 - to develop a market study and business plan for a new edge-glued panels production line - Voyage is negotiating a \$495,000 loan combined with finance from Weinig, the German equipment supplier. The Voyage Company (Khabarovsk) represents a long-term FOREST partner with the innovative management and initiative to take full advantage of USAID technical assistance.

4. Project Focus Area – Activity Information

Ongoing Activities

- FOREST biomass experts have worked alongside Russian equipment manufacturers - such as at Biysk Boiler Plant, Kovrov Boiler and Dry Kiln Plant, Kaluga Turbine Works - and Russian partner companies to improve the design and performance of its boilers and turbines. Given modifications, the experts concluded that the equipment would be suitable for installation at Igirma Tairiku (Irkutsk Oblast), Yartsevsky LPK (Krasnoyarsk Krai), Amurskiy DOK (Khabarovsk Krai) and Parusnovskiy DOK (Sakhalin Oblast).
- With approval from the FOREST biomass energy Working Group, Component 4 is assessing options with Russian equipment manufacturers and design firms for timber companies to implement 1MW combined heat and power pilot biomass plants. These systems will generate affordable heat and power to remote off-grid small companies and communities. This should create community services, mobilize communities in decision-making activities and in building partnerships.
- The FOREST Project has facilitated negotiations on a possible joint-venture between Biysk Boiler Plant, Russia and Wellons, USA to produce a biomass boiler capable of effectively combusting low-grade wood waste. FOREST biomass energy experts visited Pegas Co., Petrosavodsk to assess the operation of a Wellons-manufactured biomass boiler at the company's facility. Valentin Isakov, Energy Department Head of Igirma-Tairiku (FOREST partner-company in Irkutsk oblast) and Mikhail Tokarj, representative of Wellons, accompanied the biomass energy team. FOREST partner company Igirma-Tairiku is interested in being the first potential buyer of the biomass boiler under the joint-venture.

Upcoming Activities:

- Parusnovskiy DOK (Sakhalin) purchased concrete blocks and other materials to begin construction of its biomass boiler house. Upon completion of the house in July-September 2003, the company will purchase and install equipment. Biomass energy experts are assisting Parusnovskiy DOK in building a biomass boiler and dry kiln complex (50-60 m3 capacity).
- Having selected the biomass boiler to be installed, Terneyles and design company, Turboblock-Service, are beginning to develop a detailed design for a cogeneration plant (30 MW thermal). Terneyles assessed the cost of a Wellon's cell as too high.
- TM Baikal Co. is taking steps to install two modified DKVR-10-13 Biysk boilers.

5. Results by Objective (Indicators)

SO 1.6 Environmental Resources Managed More Efficiently to Support Economic Growth				
IR 1.6.2 Operating efficiency of businesses adopting environmentally -friendly practices improved				
	<i>Year 3</i>	<i>Recent Quarter</i>	<i>Length of Project</i>	<i>Comments</i>
Businesses showing improved environmental practices	4	1	4	<ul style="list-style-type: none"> • Launch of a 1 MW biomass plant at Voyage, LLC (Khabarovsk); • Igirma-Tairiku constructed a new biomass boiler house and installed boilers; • Gorinsky LPK installed a biomass boiler. • Amurskiy DOK purchased a biomass boiler;
Results tracked additionally to the SO table indicators				
Amount of economic benefit received by local businesses as a result of introducing new biomass energy plant	USD 430,000 per year	USD 130,000 per year	USD 430,000 per year	1 MW boiler + 300 m3 dry kiln complex at Gorinskiy KLPH. 1 MW boiler + 100 m3 dry kiln complex at Voyage, LLC. Economic benefit in the form of additional revenue from value-added dried lumber exported to Japan and avoided landfill costs.
Number of local institutions, with increased capacity to design and construct biomass energy facilities	6	2	6	Design firms GNC LPK, (Moscow), Institute for Technical Physics developed TEOs/construction plans for biomass energy facilities at Parusnovskiy DOK (Sakhalin), Yartsevskiy LPK (Krasnoyarsk Krai)
Number of people, who received training in biomass energy use through biomass energy workshops, design review meetings, study tours, seminars (male/female/total)	100/8/108	12/2/14	149/17/166	Representatives of timber companies, design firms, financial institutions, and administration and local authorities increased their skills and awareness at the FOREST-hosted biomass energy workshop in November 2001, October 2002; Investment Workshop in June 2002; Design Review Meeting in March 2003; Kiln & Boiler Seminar in March, 2003, Component Working Group meetings; direct consultations and design reviews provided during C4 field trips.

6. Key Deliverables Accomplished Per Approved Workplan

- TEO for the construction of a 6 MW mini-cogeneration plant for timber company Terneyles in Plastun settlement, Primorski Krai
- TEO for the construction of a 2 MW biomass energy facility for timber company Eniseyles at Ordjonikidzevskiy LPH.
- TEO for the construction of a 0.6 MW biomass energy facility for saw-mill operations for the timber company Eniseyles in Krasnoyarsk
- Technical recommendations on fuel handling and fuel supply system options for Terneyles' cogeneration plant; database on U.S.-based biomass energy equipment producers.
- FOREST powerpoint presentations given at the biomass energy workshop (Oct. 2002), including such topics as wood-fired boilers, wood combustion, cogeneration plants, and the advantages and disadvantages of biomass energy.
- Recommendations provided to Igirma-Tairiku on improving fuel quality, testing and evaluating the capacity and performance of boilers, and purchasing the proper equipment needed to handle the anticipated fuel.
- Recommendations provided to Eniseiles on evaluating boilers for improved performance, boiler operator training, fuel storage coverage, and modifications to boilers.
- Recommendations provided to Yartsevo (Zotino) on the proper equipment to properly size and store biomass fuels prior to burning and the use of a reliable biomass combustor.
- Publication of proceedings from the November 11-12, 2001 "Assessment of Biomass Energy Market Opportunities in Siberia and the Russian Far East."
- Parusnovskiy, DOK's one-stage project for the construction of a 0.40 MW biomass boilers in Sakhalin.
- Yartsevskiy LPH's TEO for the construction of a 5 MW thermal biomass energy plant in Krasnoyarsk krai.
- Recommendations provided to Gorinskiy KLPK (Khabarovsk Krai) on putting into operation a 1 MW biomass boiler.
- Recommendations provided to Amurskiy LPK (Khabarovsk Krai) on heat balance, water preparation, and efficiency for a 2.5 MW biomass boiler.
- Recommendations provided to Dynasty (Voyage) on putting into operation a 1 MW biomass boiler.
- FOREST power point presentation given at Design Review meeting in Irkutsk (March 2003) on the construction, operation, design specification of biomass energy facilities.
- FOREST power point presentation given at Dry Kiln and Biomass Boiler seminar in Khabarovsk(March 2003) on biomass energy use experience in Siberia and Far East.
- Two "Biomass Energy" posters on FOREST activities installed at two permanent energy conservation exhibitions in Irkutsk Oblast.

7. Notifications – Issues, Problems, Findings on Work to Date

- There is a need to develop and manufacture a small-scale modular 1 MW combined heat and power system (CHP) for remote off grid forest companies and communities.
- Among wood-processing companies and design firms, there is a need to increase the expertise of specialists in the operation and maintenance of biomass-fired boilers and dry kilns in the RFE and Siberia. Feeding off the success of the first design review session, the FOREST Project plans to conduct additional design review sessions with companies and consultants to increase capabilities in biomass energy in the region.

8. Other Information

As a result of its participation at energy fairs in Irkutsk and Sayansk (Irkutsk Oblast), the biomass component has disseminated information and raised awareness among local companies interested in biomass energy.

9. Level of Effort

Approximately 48 months were spent on the Biomass Energy Component in Year Three, see Appendix B for a detailed breakdown of the fourth quarter.

V. Cross-Cutting Components

A. Forest Policy and Legal Reform

Policy-related activities have been and will continue to be reported under the four primary components.

B. Applied Forestry Research

Research and carbon monitoring-related activities have been and will be reported under the four primary components.

C. Grants/Loan Program

1. Economic Overview

The grant component supports the four technical components of the FOREST Project: fire prevention, pest monitoring, strengthening value added processing of forest industries by working with associations and exploring biomass energy potential. This component funds Russian organizations, institutions and non-governmental organizations for specific activities that will help to achieve overall project goals in sustainable forestry management. A primary objective is to build the local capacity of individuals, organizations, institutions, associations and private companies by conducting training and working closely with Russian institutions.

Grant projects for Component 1 are targeted to change behaviors and attitudes of people in the Russian Far East and Siberia to reduce the incidence of human-caused forest fires. The component has had impact on the forest industry through a combination of targeted training, general awareness activities and construction of recreation areas.

Joint grant projects with the Pest Management team are introducing an integrated pest monitoring methodology to track forest insect pest populations to prevent pest outbreaks. New pest monitoring methodology is extremely important not only for saving Russian forests and protecting the forest industry, but, also for protecting forests outside of Russia as well. In the light of past experience with the Asian gypsy moth, it is in the best interest of the global economy to monitor for incipient outbreaks of the Siberian moth and protect the world's forests.

Since the forest sector has the potential of boosting the economic development of Siberia and the Russia Far East, the goal of grant projects has been to increase the value of forest products as a means to discourage over-harvesting of forest products. To achieve this, FOREST Grants have strengthened associations to represent and serve their members by creating Resource Information Centers, and by

helping members increase the value of their products -- increasing company/management efficiency, producing marketable products, and adding value to their products.

Funded through the Grant Component, feasibility studies for the construction of cogeneration plants (Biomass Facilities) operating on wood waste will lead companies to a potential substitute for environmentally hazardous and costly energy sources, such as coal and diesel fuel. The benefits of using biomass energy include providing energy to those communities and municipalities outside the power grid, diminishing forest level fuel load which also helps in the prevention of forest fires. Simultaneously this practice brings economic benefits to areas through increased income, employment and community development (better quality of life as people now have electricity in their villages).

2. Highlights and Results

Two Grant Cycles were conducted during the reporting year: 3rd and 4th cycles as noted below:

Grant topics for 3rd Cycle:

Fire Prevention:	1. Forest Recreation Areas Development (Irkutskaya Oblast, Primorski Krai). 2. Resource Centers Development for Storing and Promotion of Fire Prevention Materials Khabarovski Krai).
Pest Monitoring:	Handbook Development on Methods of Forest Pests and Diseases Monitoring (Russian Federation).
SWP/NTFP:	Proposals on Increasing Value-Added Processing of Forest Products (FOREST Project Regions).
Biomass Energy:	Feasibility Study Development on the Construction of Biomass (Wood Wastes) Energy Facilities (Forest Project's Regions).

Grant Topics for 4th Cycle:

Fire Prevention:	1. Forest Recreation Areas Development (Primorski Krai). 2. Resource Centers Development for Storing and Promotion of Fire Prevention Materials (Khabarovsky Krai, Krasnoyarsky Krai, and Sakhalinskaya Oblast).
Pest Monitoring:	Forest Pathology Management Plan Development for the Subject of Russian Federation.
Biomass Energy:	Feasibility Study Development (one stage project) for the Construction of Cogeneration Plants Operating on Biomass (wood waste).

- 52 pre-qualification applications were received for 3rd and 4th Grant Cycles.
- 42 pre-qualification applications were invited to complete full grant applications for 3rd and 4th Grant Cycles.
- Received 25 full grant proposals for topics of for 3rd and 4th Grant Cycles.
- 10 Applications were selected for best and final round (BAFO).
- 84 people were trained during on full grant application writing trainings which were held in Krasnoyarsk, Irkutsk, Vladivostok, Khabarovsk, and Moscow. Representatives from 42 organizations, which passed pre-qualification stage, took part.
- 18 anonymous experts were selected for full grant proposal reviews of the 3rd and 4th grant cycles.
- Signed agreements with 5 winners of the 3rd Grant Cycle, as approved by the Advisory Council including:

Fire Prevention:	-Anagarsky Leskhoz (Irkutskaya Oblast) for Forest Recreation Areas Development.
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Pest Management: -Federal State Entity “Russian Center of Forest Protection” (Moscow Oblast) for Handbook Development on Methods of Forest Pests and Diseases Monitoring.

SWP/NTFP: -“Ekovit” Ltd., (Krasnoyarskiy Krai) for Proposals on Increasing Value-Added Processing of Forest Products.

Biomass Energy: -JV “Igirma Tairiku” Ltd., (Irkutsk Oblast) and “TTC-Les” Ltd., (Krasnoyarsk Krai) for Feasibility Study Development on the Construction of Biomass (Wood Wastes) Energy Facilities.

- Advisory Council approved winners for the 4th Grant Cycle included:

Fire Prevention: -Lazovski Leskhoz (Primorski Krai) and Federal State Entity “Primorskaya Searching Survey Expedition” for Forest Recreation Areas Development.

-Krasnoyarsky Krai Public Fund of Forest Protection and Reforestation (Krasnoyarskiy Krai) for Resource Centers Development for Storing and Promotion of Fire Prevention Materials

Pest Management: -“Siberian Center of Forest Certification” (Krasnoyarskiy Krai) for Forest Pathology Management Plan Development for Krasnoyarski Krai.

- The Grant Project implemented by JSC “Yartsevskiy Lespromkhoz” has been closed out. Yartsevskiy Lespromkhoz created a feasibility study for construction of a cogeneration plant with capacity 1.2 megawatt in Zotino settlement in Krasnoyarsky Krai. At present the enterprise is actively looking for financial resources for construction of the cogeneration plant. 1100 local inhabitants of Zotino village in Krasnoyarsky kraï will benefit from the second grant project implementation, as ecology will be improved, and local citizens will have a guaranteed power source 24 hours a day.
- SibGTU RIC (Krasnoyarsk) made an initial step towards sustainability by providing fee-for-service. Two web-sites were developed for two companies (an advertising company and and NTFP Association member) for total amount of \$440.
- Club “Boomerang” (Sakhalin) completed the construction of 3 recreation sites, which are located in fire-prevalent risk zones. Club management conducted a contest for creation of an anti-fire poster. Fifty adults and children took part in the contest. Twenty-two works-of-art were selected for an album and for open exhibition. The works of three winners were selected for poster printing; these posters will be placed in fire risk areas of Sakhalin.
- The Saw-filing Center on Training Specialists for Sawmills and Wood Processing Companies of Sakhalinskaya Oblast has earned 3107 USD including: 1882 USD for providing training to 10 specialists, and 1225 USD for preparing 60 saws. The business is thriving and becoming sustainable.
- Parusnovskiy Woodworking Enterprise increased its labor capacity by 20% by training 3 specialists in the Saw-filing Center.
- The “Financial Institutions Database” was updated for the FOREST web-site.
- Grantee -- Information Resource Center -- initiated a new service “Investment Support for Companies from the Wood-working Sector.” Assistance is provided to companies that have a need to modernize or buy new equipment. The center studies these needs and locates foreign investors; once an agreement is reached the center receives a fee.

3. Success Story

- MANT DV presented its recreation zone to Khabarovsk Krai tourist department officials and representatives of tourist companies from Japan. As a result of this event, the site was included to the tourist guide book as a recommended place for camping.
- Through a FOREST grant, the Saw-filing Center on Training Specialists for Sawmills and Wood Processing Companies of Sakhalinskaya Oblast was established. Today, the center has already begun its first steps toward self sufficiency and has recently received payments in the amount of \$1882 USD from woodworking enterprises for the provision of 60 saws. Three specialists from Parusnovskiy Woodworking Enterprise were trained and now have a 20% increase in labor productivity.
- IRC –Les SibGTU in cooperation with Ekovit, conducted a Seminar on “The Production of Fir Oil under the Krasnoyarsk Krai Conditions” and trained 9 people including members of The Non -Timber Product Developers Association. IRC-Les SibGTU received a fee for conducting the seminar and providing of handbooks. Ekovit was contracted to provide coordination assistance.
- IRC –Les SibGTU has conducted a second seminar on “The Krasnoyarsk Krai Forest Fund” and trained 5 people including three members of The Non Timber Product Developers Association. To date, the IRC-Les SibGTU has trained 14 people and earned roughly 800 USD by providing services to clients and partners.

4. Project Focus Areas – Activity Information

- Grantees monitored: 1) Fire Prevention- Boomerang club; 2) Secondary Wood Processing – Sakhalin Association; and 3) Biomass Energy – Parusnovsky DOK. Club Boomerang is completing three recreation areas. The Sakhalin Association has purchased all required equipment for training center, signed a rental agreement for the training center facilities, and is in the process of collecting training materials and developing a training program. Parusnovsky DOK is closely working with their subcontractor and had a successful visit to Moscow where the preliminary project’s results were presented. This work will be finished in January 2004.
- Conducted a monitoring visit for the second grant cycle grantee (Fire Prevention): Model Forest “Gassinski” (Khabarovsk). The agreement has been extended due to an early winter. Recommendations to improve grant implementation have also been provided to the grantee.
- Monitoring of:
 - First grant cycle - Fire Prevention: IAITO FE and DALNIILKH (Khabarovsk); SWP/NTFP – DOD (Khabarovsk) and SibGTU (Krasnoyarsk).
 - Second grant cycle – Pest Management: Primorsky Krai Center on Forest Protection (Vladivostok).
- The Grant Application prequalification process was completed by February 25th. Sixteen applications were received from Khabarovsk Krai, Krasnoyarsk Krai, Primorsky Krai, Sakhalinskaya Oblast, and Irkutskaya Oblast.
- Site visits of the Ulikanskiy and Litovski forestries were conducted in early February (note that the last two of thirteen forestries received equipment from FOREST under an Emergency grant). The equipment purchased under the emergency grant assisted foresters from 13 forestries to provide fire prevention in the region. The result of these grants has been a reduction in the number of forest fires in the following areas:

Bikinskiy, Viazemskiy, Avanskiy, Prigranichniy, Khorskiy, Sukpayskiy, Oborskiy, Mukhenskiy, Khabarovskiy, Ulikanskiy, Kur-Urmiyskiy, and Litovski.

Ongoing Activities

- Signing Grant Agreements with winners from the 4th Grant Cycle:
 - Lazovski Leskhoz (Primorski Krai) and The Federal State Entity “Primorskaya Searching Survey Expedition” for Forest Recreation Development;
 - Krasnoyarskiy Krai Public Fund of Forest Protection and Reforestation (Krasnoyarskiy Krai) for Resource Centers Development for storing and promotion of Fire Prevention Materials;
 - Siberian Center of Forest Certification Krasnoyarskiy Krai for Forest Pathology Management, Krasnoyarski Krai.
- Disburse advances to winners of 4th Grant Cycle.
- Close the following grants: Instrumental Center Grant, Increasing Value-Added Processing of Forest Products Grant, Krasnoyarsk Resource Information Center Grant, “Model Forest Gassinski” Recreation Area Grant.

Upcoming Activities

- 4 Grants close out (July – September)
- Advances disbursement to 4th Grant cycle winners, beginning July 15th.
- Monthly monitoring visits.

5. Key Deliverables Accomplished Per Approved Workplan

Monthly grantees technical reports – 74

Monthly grantees financial reports – 74

Close-out delivery-acceptance acts – 3

Trip reports – 10

6. Other Information

Grants of 4th Grant Cycle were the last. FOREST Project Grant Program is over, due to budget cuts. The announcement was made during the AC meeting at Sochi in June 2002 on.

7. Level of Effort

Approximately 34 months were spent on the Crants Component in Year Three, see Appendix B for a detailed breakdown of the fourth quarter.

D. Volunteers

Volunteer activities have been restructured and are now reported under the four primary components.